

United States Environmental Protection Agency
Washington, DC 20460Work Assignment Number
1-1

Work Assignment

☒ Original ☐ Amendment Number:Contract Number
EP-W-08-018Contract Period
Base

Option Period Number 1

Title of Work Assignment
IPM Architecture Maintenance and EnhancementContractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The contractor shall prepare and deliver a workplan and cost estimate in accordance with the contract.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee

LOE

Previously Approved

This Action

Total \$0.00

13,300

Work Plan / Cost Estimate Approvals

Contractor WP Dated :

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee: \$0.00

LOE: 13,300

Work Assignment Manager Name

ELLIOT R. LIEBERMAN

(Signature)

(Date)

Branch/Mail Code 6204J

Phone Number 202-343-9136

Fax Number 202-343-2359

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

WORK ORDER SOW

Contract: EP-W-08-018, Work Assignment: 1-1

WORK ASSIGNMENT STATEMENT OF WORK

Title IPM Architecture Maintenance and Enhancement

Work Assignment #: WA 1-1

Estimated Level of Effort: 13,330

I. BACKGROUND AND PURPOSE

Electric power plants are a significant source of sulfur dioxide (SO₂), nitrogen oxides (NO_x), mercury (Hg), and carbon dioxide (CO₂) emissions and thus affect a number of air pollution issues.

To evaluate alternative multi-pollutant strategies for reducing air emissions from electric power plants, EPA uses the Integrated Planning Model (IPM), a model of the U.S. electric power sector developed and maintained by ICF Consulting, Inc.. To keep its IPM based projections current, EPA must continually update assumptions that drive this model and expand the model's analytical capabilities. The EPA Base Case assumptions were developed under Work Assignments 02AA-13, 03AA-13, 04AA-28, and 05AA-28 (contract 68-W6-0049) and updated and enhanced under Task Orders 10, 15, and 31, (contracts 68-D7-0081), Work Assignments 1-3, 2-3, 3-3, and 4-3 (contract 68-W-03-028), and Work Assignment 0-1 (contract EP-W-08-018).

The primary focus of this Work Assignment will be on completing IPM Base Case v.4.0, supporting the documentation and peer review of this base case, providing extensions to this base case, and beginning work on new IPM Base Case, v.5.0. Under this Work Assignment the Contractor shall update selected parameters, enhance capabilities to analyze policy scenarios scheduled for consideration over the next 12-18 months, improve reporting capabilities, support peer review of these updates and enhancements, improve model runtime, and perform further IPM runs. This work assignment will also include model development activities for an IPM Mexico module, continuing technical support activities for coordinated modeling using IPM and EIA's NEMS (National Energy Modeling System) model, and model development work on one other non-U.S. IPM module (e.g., IPM China), and performing model runs and follow-up analysis for comparative modeling exercises, e.g., those sponsored by Stanford University's Energy Modeling Forum.

None of the work performed under this work assignment will duplicate work performed under previous work assignments or task orders.

II. CONTRACT LEVEL STATEMENT OF WORK REFERENCE

The tasks to be performed under this work assignment are consistent with the provisions of Attachment 1 (Statement of Work) for Contract EP-W-08-018.

III. STATEMENT OF WORK TASKS

Task 1— Prepare Work Plan: In accordance with the terms and conditions of contract clause B.2 entitled "Work Assignments" and the section of contract Attachment 1 entitled "Preparation and Submission of Work

IPM Architectgure Maintenance and Enhancement

Contract: EP-W-08-018, Work Assignment: 1-1

Summary Information

Title: IPM Architectgure Maintenance and Enhancement
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date:
Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: ELLIOT R. LIEBERMAN
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
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Fax Number: 202-343-2359
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Deliverable Items

SCHEDULE FOR LOCATION:

Attachments

Attachment Name

WORK ORDER SOW

WORK ORDER SOW

Contract: EP-W-08-018, Work Assignment: 1-1

Plans," the Contractor shall prepare a Work Plan for 13,300 hours with the understanding that the Government will only approve a LOE of 1,550 hours on a prorated basis to start the work assignment. The Government will make a conscientious effort to incrementally fund the remaining LOE under the work assignment. However, due to funding uncertainties, including the fact that the term of this work assignment falls in two government fiscal years, the Government reserves the right not to continue this task after the first 1,550 hours are exhausted. Deliverables shall be completed and submitted to EPA/OAR/OAP/CAMD as specified in this work assignment, except to the extent that content and dates are changed through the initiation or full agreement of EPA/OAR/OAP/CAMD. The contractor can use the results obtained from, but not duplicate services provided under Work Assignment 0-1 and related work assignments under previous contracts.

Note: Development work on IPM U.S., IPM Mexico, and one other non-U.S. IPM module will be performed under the tasks below. Separate from and in addition to the contractor's standard monthly "Financial Detail Task Order Report," the contractor upon request from EPA shall report total monthly and cumulative hours separately for IPM U.S., IPM Mexico, and any other non-U.S. IPM modules.

Task 2 — Design, Programming, Testing, and Implementation of Selected Updates and Enhancements of IPM

The Contractor shall update selected internal parameters and capabilities of the Integrated Planning Model and EPA Base Case assumptions to ensure that model results are based on the most recent input data. The COR will specify in technical direction (TD) the particular functional areas to be updated. These functional areas include updating the NEEDS (National Electric Energy Data System) database of existing and planned electric generating units, updating the cost and performance assumptions of new electric generating, and emission control technologies, fuel cost and supply assumptions, emission and heat rate assumptions, power system operation assumptions, Federal and state environmental and renewable energy regulations, financial assumptions, and run year assumptions.

For selected functional areas and at the direction of the COR, the Contractor shall prepare a typed 5-15 page issue paper that will include the description of the parameters and capabilities to be updated, the policy and technical issues to be resolved, and the sources of data for the update.

Based on the COR's review, feedback and TD authorizing the implementation of the update, the Contractor shall design and implement the update. The Contractor shall provide the COR with interim deliverables adequate to monitor the progress of these activities. At the time of initial testing and immediately before deployment of the functional improvements, the Contractor shall provide the COR with input (e.g., DAT and EMS files) and output report files (e.g., RPT and RPE files) demonstrating the capabilities of the improvements.

For the purposes of budgeting, the Contractor shall assume that the COR will request 6-8 issue papers on functional areas identified by the COR. These issue papers may be request on IPM U.S., IPM Mexico, or another non-U.S. IPM module. The COR will review the issue papers, provide feedback and issue technical direction authorizing implementation. The Contractor shall design and implement the approved changes and test them. Once debugging is completed, the Contractor shall provide the COR with interim deliverables to monitor progress of activities, including suitable IPM input and output files.

Under this task, the Contractor shall also revise and enhance the NEEDS Comment Input Tracking Tool previously developed and enhanced under Work Assignments 3-3 and 4-3(Contract 68-W-03-028) and Work Assignment 0-1 (Contract EP-W-08-018). The purpose of the tool is to enable the Contractor, EPA, and others

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to update the NEEDS database on an ongoing basis, track and screen proposed updates, and generate interim versions of the database between releases of EPA base cases. The Contractor shall propose revisions for EPA review and shall implement revisions selected by EPA. For purposes of budgeting the Contractor shall assume that two rounds of such revisions will be required.

Task 3 — Model Enhancements to Support Analysis of New Environmental Initiatives:

The Contractor shall prepare three 10-20 page technical memoranda for 3-5 model enhancements identified by the COR. These memorandum shall cover one of more of the following areas as identified by the COR: model enhancement option assessments and recommendations, technical specification development, implementation proposals, and areas affecting model realization. The COR will review the technical memoranda prepared by the Contractor, provide feedback to resolve technical and policy issues, and issue TD authorizing programming to implement selected enhancements. The Contractor shall implement the selected enhancements and provide the COR with interim deliverables (i.e., diagnostic runs), which will be used to monitor progress and obtain feedback from the COR on further alterations that are necessary before the improvements are fully deployed.

Following up on activities initiated under Work Assignment 0-1 (Contract EP-W-08-018), the Contractor shall continue to provide technical support for information exchanges with the National Renewable Energy Laboratory (NREL) aimed at developing possible improvements for modeling renewables in IPM, including possible improvements to input data files. For purposes of budgeting the Contractor shall plan to participate in 6 one-hour telephone meetings and 2 two-hour onsite meetings at EPA's offices in Washington, D.C.

Task 4 — Reporting Improvements

The Contractor shall work with the COR and EPA analysts on an ongoing basis to identify, develop, and implement new reporting improvements. The Contractor shall obtain feedback on the shortcomings in the current IPM reports and develop prototypes to remedy the shortcomings and provide additional capabilities. For purposes of budgeting, the Contractor shall assume that three prototypes will be required. Each prototype will contain output data from a real IPM run to be selected by the COR and will represent a complete illustration of the improved reporting capability. The Contractor shall consult with the COR about the format of the prototype, which could possibly include a report, data files, software application, or a combination these formats.

Based on comments from EPA staff, the Contractor shall prepare final operational versions of the new reporting prototypes and incorporate them into the standard outputs provided to EPA on all subsequent model runs. Before delivery to EPA the prototypes will be fully tested, debugged, and quality assured to eliminate errors and ensure operability.

Following up on work initiated under Work Assignment 0-1 under this contract, the Contractor shall provide technical support for research that EPA is conducting on advanced decision making tools that can be applied to IPM model run inputs and outputs. The Contractor shall also continue to provide technical support for EPA's effort to pass IPM outputs to and receive inputs from economy-wide and energy-sector-wide models (like the Energy Information Administration's National Energy Modeling System (NEMS) model). These technical support activities shall include providing input and output files from previously performed model runs and participation in 10 one-hour telephone meetings on topics related to this project.

Task 5 — Parsing and Streamlining Tool Improvement

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The Contractor shall update and make further improvements to the tool used to parse the aggregated model results at the model plant level to the individual generating unit level, with the goal of improving the clarity, consistency, and usability of the resulting output files.

The Contractor shall also engage in further enhancements to the Streamlining Tool, the post-processing software which generates parameter values required for air quality modeling. This round of enhancements will involve incorporating into the Streamlining Tool additional improved procedures developed by EPA for calculating emissions not directly represented in the IPM. The Contractor shall prepare a 5-10 page memorandum describing options and a proposed approach. The COR will provide technical direction on the approach that will be implemented. The Contractor shall initiate the update and provide the COR with interim deliverables sufficient to monitor progress.

The Contractor shall provide technical support to address parsing and streamlining issues were not resolved under previous Work Assignments, e.g., better handling of partial retrofits and an improved algorithm for determining the location of new capacity.

Task 6 — Validation Evaluations

Under this task, the Contractor shall perform validation exercises that build on those initiated but not completed under previous work assignments. The Contractor shall propose additional approaches to validate IPM's long-term capital investment decision making. After review, revision, and authorization to proceed by the COR, the Contractor shall carry out this next phase of validation activities. The Contractor shall provide the COR with interim deliverables adequate to monitor the progress of these activities, including input (e.g., DAT and EMS files) and output report files (e.g., RPT and RPE files) from the IPM validation runs. On completion of this validation exercise, the Contractor shall deliver a 5-15 page technical memorandum containing a detailed description of the data that was used, the procedures that were performed, and the results that were obtained. The contractor shall also deliver data files and model input and output files from the IPM runs that were used in the validation.

Task 7 — Documentation

The Contractor shall provide tables, figures, and limited text needed to enable EPA to prepare documentation reports for base cases prepared under this Statement of Work.

This will involve preparing an outline for the full report and identifying the tables, figures, text, and other items to be developed by the Contractor. Besides providing comprehensive documentation for the types of assumptions covered under previous base cases, the Contractor shall give particular attention to documenting assumptions that were not included in documentation for previous base cases and to correcting assumptions that were inadequately or wrongly documented in these previous base cases. In this regard, the contractor shall prepare a 5-15 page technical memorandum listing new assumptions that need to be documented and previous assumptions that need to be revised, enhanced or corrected. For each new assumption and revised assumption the technical memorandum shall specify the form that the documentation will assume (i.e., tables, figures, maps, text, etc.).

Using the materials provided by the Contractor, EPA will draft the report. The Contractor shall review and provide comments (using redline and strikeout in an electronic version of the draft report) for two revisions of the initial draft report. For purposes of budgeting, the Contractor shall assume that documentation reports prepared under this Statement of Work will be comparable in length and content to "Standalone Documentation

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for EPA Base Case 2004 (V.2.1.9) Using the Integrated Planning Model" (September 2005) and "Documentation for EPA Base Case 2006 (v.3.0) using the Integrated Planning Model" (November 2005), which were prepared by EPA and the Contractor following a similar procedure. The Contractor shall assume that the required number of tables, figures, and text will be no more than 20% greater than those prepared for the v.3.0 documentation report. For purposes of budgeting the Contractor shall assume that documentation materials will be required under this Work Assignment for EPA Base v.4.0 and for one additional base case (e.g., the IPM Mexico base case).

Task 8 — Model Size and Speed Assessment and Upgrade

The Contractor shall conduct ongoing assessments of available hardware and software upgrades required to keep model run time under 8 hours for all variants of IPM developed under this Work Assignment including an IPM variant that includes the power and boiler sectors; 6 or more model run years; a single pass capability to represent demand response; a full array of generating technologies; emission control retrofits for SO₂, NO_x, CO₂, and Hg; national, multi-national, regional, and state emissions regulations; trading and banking capabilities; and coverage of the entire North American power market (U.S., Canada, and Mexico).

Every three months or as requested by the COR, the Contractor shall identify various hardware and software options that could help meet EPA's proposed run specifications. The Contractor shall also assess each of the identified options with respect to estimated run time provided by the option, time required to implement, start-up and ongoing cost to deploy, and pros and cons of the alternative. Based on the COR's direction, the Contractor shall select an option(s) that could bring run time within the 8-hour limit. The Contractor shall implement and deploy the chosen option with a view to make it operational within 3 months of the choice of the option.

The Contractor shall also continue to provide technical support in the periodic effort to perform IPM runs on supercomputers at EPA's National Environmental Supercomputer Center or other computing facilities. The effort would involve the Contractor using IPM to generate standard MPS (Mathematical Programming Software) files that can be run on the designated supercomputer. The Contractor shall participate in periodic teleconferences (not to exceed one two-hour teleconference per month) to evaluate supercomputer performance and address problems that may arise. (Note: Performance of this activity is contingent on EPA's establishing the appropriate license agreements with the Supercomputer Center or other facilities.)

Task 9 — Performing Model Runs

The contractor shall perform 30 diagnostic IPM runs in the course of preparing the base cases through the activities described above in Tasks 2-4. For each model run, the Contractor shall provide the COR with run specifications, input (e.g., DAT and EMS files) and output report files (e.g., System Summary Reports, RPT and RPE files)

Task 10 — Parsing Results from Model Runs

For diagnostic purposes, the Contractor shall perform six (6) parsings of IPM run outputs produced under Task 9. The COR will identify the runs and run years to be parsed. The Contractor shall deliver the parsed file within three (3) working days after a request to proceed.

Task 11 — Expert Panels, Work Groups, and Special Studies

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The Contractor shall propose nationally and internationally recognized experts beyond the contractor's immediate staff, to develop assumptions for incorporation in EPA Base Case v.5.0 on up to five (5) topic areas to be identified by the COR. Likely topic areas include, but are not limited to the following:

- (a) Updating current and, where necessary, developing new coal supply curves and transportation assumptions needed for bottom-up modeling out to 2070
- (b) Developing nuclear fuel supply curves needed for modeling out to 2070
- (c) Updating current and, where necessary, developing new cost and performance assumptions for electric generation and emission control technologies needed for bottom-up modeling out to 2070.
- (d) Using rigorous world macro economic, econometric, or other substantiated methods to derive short-term (5-10 year) and long-term (out to 2070) cost escalation factors for inputs used in EPA Base Case, v.5.0.

The proposed experts shall have

- demonstrated expertise, 10+ years of professional experience, and recognized standing in the respective topic areas,
- access to data and other information necessary to prepare the inputs required for IPM,
- clearance to publicly release all data and other assumptions used in EPA Base Case v.5.0 and to prepare documentation fully describing data sources and the basis for the assumptions used in the v.5.0 base case,
- availability to prepare materials and make presentations at expert peer review sessions on assumptions incorporated in Base Case v.5.0.

For each topic area the contractor shall

- Draft technical specifications describing the issues and questions to be addressed by the experts,
- Identify candidates with the requisite expertise.
- Provide the COR with estimates of the cost, level of effort, and delivery schedules for the activities to be performed by outside experts.

EPA will review and determine whether to proceed with the Contractor's proposal. If the decision is to proceed, the Contractor shall put in place the procedures necessary to secure the identified experts and perform the work. In addition, the Contractor shall

- provide technical support to enable EPA to review and provide feedback as the input assumptions are developed
- ensure that all the inputs necessary for IPM are obtained
- obtain data and documentation required for public release and peer review.

Task 12 — Technical Support for Peer Review of IPM

The Contractor shall provide technical support for independent expert review of IPM assumptions, methodology and outputs. Under this work assignment, the Contractor shall complete the response document for the model formulation peer reviews that was conducted under Work Assignment 0-1(Contract EP-W-08-018) and prepare and participate in a peer review of the coal supply, transportation, and assignment assumptions used in EPA Base Case, v.4.0.

For the coal peer reviews, the Contractor shall prepare and disseminate documents for review, make

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presentations (approximately 40 slides or overheads each) at one 4-6 hour peer review meeting in Washington, DC or two 2-hour sessions by phone and/or the internet, participate in two 1-2 hour preparatory telephone meetings and two 1-2 hour post-peer-review telephone meetings, collect and summarize comments, and draft a 20-30 page response document. The EPA publication "Peer Review Handbook, 3rd Edition," EPA/100/B-06/002, January 31, 2006

() and associated guidance documents shall be used as guidance for this task.

Task 13 — Quality Assurance and Quality Control Activities

Under this task, the Contractor shall report at regular intervals (no less frequently than month) on activities being undertaken to demonstrate adherence to the Quality Assurance Project Plan for EPA Applications of IPM (the "QAPP"). Ten months after the start of this Work Assignment, the Contractor shall provide a 5-10 page technical memorandum documenting all the activities performed during the current work assignment to demonstrate that the procedures and criteria contained in the QAPP are being followed, including quality control procedures for data gathering and analysis and evaluation criteria for data sources and estimation methodologies. QC procedures may include file documentation and data checks, and forms to ensure that appropriate methodologies and assumptions are used.

Task 14 — Conferences and Comparative Modeling Workshops

The Contractor shall provide one staff member to participate in one conference and in one comparative modeling workshop chosen by the COR. This activity has a twofold purpose: (a) to make presentations on IPM, its inputs, and/or related models (e.g., the natural gas supply model) and (b) to obtain information relevant to updating and improving IPM and related models. The Contractor shall develop one presentation (consisting of approximately 40 slides) for delivery at the conference and another for presentation at the comparative modeling workshop. For purposes of budgeting, the Contractor shall assume that the conference and workshop are each three days in duration and in a location on the U.S. West coast.

IV. DELIVERABLES

Note: All electronic deliverables required under this work assignment shall be emailed to the WAM and/or posted on the contractor's FTP site for downloading. The contractor shall also provide electronic versions of all deliverables on CD-ROM disks at the conclusion of the work assignment. The disk(s) will be accompanied by a hardcopy index of all items contained on the disk(s).

Task 1: Work Plan - in accordance with clauses B.2 and Attachment 1 of the contract

Task 2: Design, programming, testing and implementation of selected updates and enhancements of IPM

Six (6-8) 5-15 page issue papers 3 weeks from request to proceed

Input and output files from
six (6-8) diagnostic runs 4 weeks from request to proceed

NEEDS Comment Tracking
Tool - Round 1 Revision 4 weeks from request to proceed

NEEDS Comment Tracking 4 weeks from request to proceed

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Tool - Round 2 Revision

Task 3: Model Enhancements to Support Analysis of New Environmental Initiatives

One (3-5) 10-20 page technical memorandum 3 weeks from request to proceed

Input and output files from 3-5 diagnostic runs 4 weeks from request to proceed

Specifications and sample data files 2 weeks from request to proceed
for information exchange with NREL

Task 4: Reporting Improvements

3 draft reporting improvement prototypes 5 weeks from request to proceed

3 operational reporting improvement prototypes 8 weeks after obtaining feedback on draft prototypes

Input and output files from 1 week from request to proceed
previously performed IPM runs (to be used in
EPA's research on advanced decision making
tools).

5-10 model runs and accompanying data files 1 week from request to proceed for each
for testing data exchange and coordinated trial run
modeling with IPM and NEMS

Task 5: Parsing Tool Improvements

Two (2) 5-10 page technical memoranda. 4 weeks from request to proceed
(One covering improvements to the parsing
tool; the other covering enhancements to
the Streamlining Tool.)

Parsed output files from two (2) diagnostic runs 4 weeks from request to proceed

Two (2) draft and one (1) final output files 6, 8, and 10 weeks from request to proceed
from revised Streamlining tool respectively

Task 6: Validation and Uncertainty Evaluations

Input and output files from 4 weeks from EPA approval of validation
validation runs proposal

One (1) technical memorandum (5-15 pages) 3 weeks from completion validation runs
summarizing results of validation

Task 7: Documentation

(Note: The following four activities will be repeated for each of the two (2) documentation reports required
under this work assignment: for EPA Base Case v4.0 and for one other base case, e.g., IPM Mexico.)

Draft outline of report and appendices 2 weeks from request to proceed

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Final outline of report and appendices	2 weeks after receiving feedback on draft outline
5-15 page technical memorandum on new and revised assumptions and how they will be documented	2 weeks from request to proceed
Tables, figures and limited text for documentation report	Ongoing for 6-12 weeks after finalizing outline
First and second mark-ups of draft documentation report	2 weeks from receipt of each draft report

Task 8: Model Size and Speed Assessment and Upgrade

Telephone briefings on available options	Every 3 months by phone as part of Architecture Status meetings
Implementation of size and speed improvements.	Every six (6) months

Task 9: Performing Model Runs

Specification for each of thirty (30) runs	One (1) day from request to proceed
Input and output files and updated run log for each of thirty (30) model runs	Three (3) days from request to proceed

Task 10: Parsing results from model runs

Spreadsheet files containing fully quality assured, parsed results for 6 parsings of IPM output files	3 days after request to proceed
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Task 11: Expert Panels, Work Groups, and Special Studies

The following shall be prepare for up to 5 technical topic areas;

Draft and final technical specifications on issues and questions to be addressed by experts	3 weeks from request to proceed
List of candidates with required expertise	3 weeks from request to proceed
Estimate of cost, level of effort, and delivery schedule	3 weeks from request to proceed
Data and other information required for incorporation in IPM	4 weeks from request to proceed
Data and documentation required for public release and peer review	6 weeks from request to proceed

Task 12: Technical Support for Peer Review of IPM

Three (3) presentations (approximately 40 slides or overheads each)	3 weeks from request to proceed
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Three (3) summaries of comments (10-20 page each)

1 week after each peer review meeting

Three (3) response documents (20-30 page each)

2 weeks after each peer review meeting

Task 13: Quality Assurance and Control Activities

Summary of QA/QC activities performed
meetings

Monthly by phone as part of Architecture Status

5-15 page technical memorandum

10 months from inception of this Work Assignment

Task 14: Conferences and Comparative Modeling Workshops

Two (2) presentations (each consisting of
approximately 40 slides)

3 weeks after request to proceed

Three (3) 1-2 page response to questions on
previously performed model runs

3 working days from request to proceed

1-2 addition model runs

1 week from request to proceed



United States Environmental Protection Agency
Washington, DC 20460

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Work Assignment

☐ Original ☒ Amendment Number: 1

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EP-W-08-018

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Title of Work Assignment
IPM Architecture Maintenance and Enhancement

Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance
From: 03/11/09 To: 03/10/10

Comments:

The contractor shall not incur costs greater than 1,089,000 nor LOE greater than 8,160 hours unless expressly authorized by amendment to this work assignment.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 5)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
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Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$0.00	13,300
This Action	\$1,775,752.00	0
Total	\$1,775,752.00	13,300

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09	Cost/Fee: \$1,775,752.00	LOE: 13,300
Cumulative Approved:	Cost/Fee: \$1,775,752.00	LOE: 13,300

Work Assignment Manager Name
ELLIOT R. LIEBERMAN

Branch/Mail Code 6204J
Phone Number 202-343-9136
Fax Number 202-343-2359

(Signature) (Date)

Project Officer Name
SHERMAN E. FARVES

Branch/Mail Code 3803R
Phone Number 202-564-2185
Fax Number 202-565-2554

(Signature) (Date)

Other Agency Official Name

Branch/Mail Code
Phone Number
Fax Number

(Signature) (Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R
Phone Number 202-564-1041
Fax Number 202-565-2554

(Signature) (Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

IPM Architectgure Maintenance and Enhancement

Contract: EP-W-08-018, Work Assignment: 1-1, Amendment: 0001

Summary Information

Title: IPM Architectgure Maintenance and Enhancement
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/09/09
Total Funding:

WA Totals

The following item(s) have been added:

Category	POP	Amount
Estimated Cost	Option 1	\$ (b)(4)
Fixed Fee	Option 1	

Unit: **U.S. Environmental Protection Agency**
Washington, DC 20460

Work Assignment Number

1-1

Work Assignment☐ Original ☒ Amendment Number: 2Contract Number
EP-W-08-018Contract Period
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Title of Work Assignment
IPM Architecture Maintenance and
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ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

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☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to increase the LOE from 13,300 to 14,180 hours and to revise the Work Assignment SOW (see attached). As a result, the contractor is to provide their revised workplan and cost estimate. The contractor shall not exceed an LOE greater than 9,640 hours (which includes this amendment LOE increase) without Contracting Officer approval.

☐ Superfund**Accounting and Appropriations Data**☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$1,775,752.00	13,300
This Action	\$0.00	880
Total	\$1,775,752.00	14,180

Work Plan / Cost Estimate Approvals

Contractor WP Dated :	Cost/Fee:	LOE:
Cumulative Approved:	Cost/Fee: \$1,775,752.00	LOE: 14,180

Work Assignment Manager Name

Branch/Mail Code 6204J

ELLIOT R. LIEBERMAN

Phone Number 202-343-9136

(Signature)

(Date)

Fax Number 202-343-2359

Project Officer Name

Branch/Mail Code 3803R

SHERMAN E. FARVES

Phone Number 202-564-2185

(Signature)

(Date)

Fax Number 202-565-2554

Other Agency Official Name

Branch/Mail Code

Phone Number

(Signature)

(Date)

Fax Number

Contracting Official Name

Branch/Mail Code 3803R

DEBRA A. MILLER

Phone Number 202-564-1041

(Signature)

(Date)

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

IPM Architecture Maintenance and Enhancement

Contract: EP-W-08-018, Work Assignment: 1-1, Amendment: 0002

Summary Information

Title: IPM Architectgure Maintenance and Enhancement
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/09/09
Total Funding:

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 13300 to 14180.

Amendment No. 1 to Statement of Work

Work Assignment: 1-1 (IPM Architecture Maintenance and Enhancement)

Contract: Contract EP-W-08-018 (ICF)

Previously Approved Level of Effort:	13,300 hours
Additional Level of Effort by This Action:	<u>880 hours</u>
Total Level of Effort:	14,180 hours

BACKGROUND

The purpose of this amendment is to finalize an approach and initiate work to give EPA the capability of analyzing energy efficiency measures using IPM or another modeling platform. These activities fall under Task 2 (Design, Programming, Testing and Implementation of Selected Updates and Enhancements of IPM), Task 3 (Model Enhancements to Support Analysis of New Environmental Initiative), and Task 9 (Perform Model Runs) of the current work assignment. The contractor previously proposed an approach that did not fully address EPA's needs. Under this amendment the contractor shall develop a revised proposal that meets EPA's needs and, upon EPA approval, shall develop prototypes and perform trial model runs for the revised approach.

DELIVERABLES AND SCHEDULE

The additional hours will be used to complete the following specific deliverables and activities:

ID	Deliverable	Activities	Target Completion Date
1	Technical memorandum (draft and final versions)	Based on EPA comments on the contractor's 6/30/09 Technical Scoping Memorandum, the contractor shall propose a revised modeling approach and delivery schedule to meet EPA's analytical requirements	10-15 business days from request to proceed
2	Prototypes	Develop prototypes of the revised approach for analyzing the impacts of energy efficiency measures on the U.S. electric power sector	30-40 business days from request to proceed
3	Perform trial model runs and refine approach	Using the prototypes, perform trial runs to serve as a proof of concept of the proposed approach. Revise approach based on diagnostic results and comments from EPA.	10-20 business days from request to proceed
4	Draft implementation plan	Prepare a plan to make the prototypes fully operational.	10 business days from request to proceed



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number

1-1

☐ Original ☒ Amendment Number: 3

Contract Number
EP-W-08-018

Contract Period
Base

Option Period Number |

Title of Work Assignment
IPM Architecture Maintenance and
Enhancement

Contractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to approve the contractor's workplan and cost estimate (corrected). The LOE remains at 14,180 with a ceiling of 9,640 hours; and the new cost estimate of \$1,895,518.00 maintains a ceiling of \$1,089,000.00. The contractor shall not exceed these ceilings without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 4)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$1,775,752.00	14,180
This Action	\$119,766.00	0
Total	\$1,895,518.00	14,180

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 11/02/09	Cost/Fee: \$1,895,518.00	LOE: 14,180
Cumulative Approved:	Cost/Fee: \$1,895,518.00	LOE: 14,180

Work Assignment Manager Name

Branch/Mail Code 6204J

Phone Number 202-343-9136

Fax Number 202-343-2359

Project Officer Name

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

IPM Architectgure Maintenance and Enhancement

Contract: EP-W-08-018, Work Assignment: 1-1, Amendment: 0003

Summary Information

Title: IPM Architectgure Maintenance and Enhancement
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/09/09
Total Funding:

WA Totals

The following item(s) have been modified:

Category	POP	From	By	To
Estimated Cost	Option 1	\$(b)(4)	\$(b)(4)	\$(b)(4)
Fixed Fee	Option 1			

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number

1-1

☐ Original ☒ Amendment Number: 4Contract Number
EP-W-08-018Contract Period
Base

Option Period Number I

Title of Work Assignment
IPM Architecture Maintenance and
Enhancement

Contractor

ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to increase the hours and dollar ceiling on WA1-1. The total LOE for WA 1-1 remains at 14,180 with a revised ceiling of 11,737 hours. The cost estimate for the WA remains at \$1,895,518.00 with a revised ceiling of \$1,369,000.00. The contractor shall not exceed these ceilings without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 8)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:
Previously ApprovedCost/Fee
\$1,895,518.00LOE
14,180

This Action

\$0.00

0

Total

\$1,895,518.00

14,180

Work Plan / Cost Estimate Approvals

Contractor WP Dated :

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee: \$1,895,518.00

LOE: 14,180

Work Assignment Manager Name

ELLIOT R. LIEBERMAN

Branch/Mail Code 6204J

Phone Number 202-343-9136

Fax Number 202-343-2359

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

United States Environmental Protection Agency
Washington, DC 20460Work Assignment Number
1-1

Work Assignment

☐ Original ☒ Amendment Number: 5Contract Number
EP-W-08-018Contract Period
Base Option Period Number:Title of Work Assignment
IPM Architecture Maintenance and EnhancementContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan ApprovalPeriods of Performance
From: 03/11/09 To: 03/10/10

Comments:

The purpose of this amendment is to increase the hours and dollar ceiling on WA 1-1. The total LOE for WA 101 remains at 14,180 with a revised ceiling of 13,385 hours. The cost estimate for the WA remains at \$1,895,518.00 with a revised ceiling of \$1,589,000.00. The contractor shall not exceed these ceilings without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$1,895,518.00	14,180
This Action	\$0.00	0
Total	\$1,895,518.00	14,180

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09	Cost/Fee: \$1,895,518.00	LOE: 14,180
Cumulative Approved:	Cost/Fee: \$1,895,518.00	LOE: 14,180

Work Assignment Manager Name

Branch/Mail Code 6204J

ELLIOT R. LIEBERMAN

Phone Number 202-343-9136

(Signature)

(Date)

Fax Number 202-343-2359

Project Officer Name

Branch/Mail Code

RYAN T. DANIELS

Phone Number

(Signature)

(Date)

Fax Number

Other Agency Official Name

Branch/Mail Code

Phone Number

(Signature)

(Date)

Fax Number

Contracting Official Name

Branch/Mail Code 3803R

DEBRA A. MILLER

Phone Number 202-564-1041

(Signature)

(Date)

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

IPM Architectgure Maintenance and Enhancement

Contract: EP-W-08-018, Work Assignment: 1-1, Amendment: 0005

Summary Information

Title: IPM Architectgure Maintenance and Enhancement
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/09/09
Total Funding:

Procurement Management Roles

The following item(s) have been modified:

CONTRACT SPECIALIST:

U.S. E.P.A.
Attn: SHERMAN E. FARVES
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Date Role Ended: 11/20/09

Mail Code: 3803R
Phone Number: 202-564-2185
Fax Number: 202-565-2554
E-Mail Address: farves.sherman@epa.gov

PROJECT OFFICER:

U.S. E.P.A.
Attn: SHERMAN E. FARVES
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Date Role Ended: 11/20/09

Mail Code: 3803R
Phone Number: 202-564-2185
Fax Number: 202-565-2554
E-Mail Address: farves.sherman@epa.gov

The following item(s) have been added:

CONTRACT SPECIALIST:

U.S. E.P.A.
Attn: RYAN T. DANIELS
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code:
Phone Number:
Fax Number:
E-Mail Address: daniels.ryan@epa.gov

PROJECT OFFICER:

U.S. E.P.A.
Attn: RYAN T. DANIELS
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code:

IPM Architectgure Maintenance and Enhancement

Contract: EP-W-08-018, Work Assignment: 1-1, Amendment: 0005

Phone Number:

Fax Number:

E-Mail Address: daniels.ryan@epa.gov

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number
1-1☐ Original ☒ Amendment Number: 6Title of Work Assignment
IPM Architecture Maintenance and EnhancementContract Number
EP-W-08-018Contract Period
Base

Option Period Number:

Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to raise the hour ceiling on WA 1-1 to 14,180 LOE hours and to raise the dollar ceiling to a cost/fee total of \$1,895,518.00. The contractor may now expend the full hours and cost/fee approved in the work plan dated 3/31/09.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 3)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$1,895,518.00	14,180
This Action	\$0.00	0
Total	\$1,895,518.00	14,180

Work Plan / Cost Estimate Approvals

Contractor WP Dated : 03/31/09	Cost/Fee: \$1,895,518.00	LOE: 14,180
Cumulative Approved:	Cost/Fee: \$1,895,518.00	LOE: 14,180

Work Assignment Manager Name

Branch/Mail Code 6204J

ELLIOT R. LIEBERMAN

Phone Number 202-343-9136

(Signature)

(Date)

Fax Number 202-343-2359

Project Officer Name

Branch/Mail Code

RYAN T. DANIELS

Phone Number

(Signature)

(Date)

Fax Number

Other Agency Official Name

Branch/Mail Code 3803R

DEBRA A. MILLER

Phone Number 202-564-1041

(Signature)

(Date)

Fax Number 202-565-2554

Contracting Official Name

Branch/Mail Code 3803R

DEBRA A. MILLER

Phone Number 202-564-1041

(Signature)

(Date)

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number
1-2

Work Assignment

☒ Original ☐ Amendment Number:

Contract Number
EP-W-08-018

Contract Period
Base Option Period Number

Title of Work Assignment
Communications Support for Clean Air
Markets Division

Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The contractor shall prepare and deliver a workplan and cost estimate in accordance with the contract.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Cost/Fee LOE
Previously Approved

This Action

Total \$0.00 515

Work Plan / Cost Estimate Approvals

Contractor WP Dated : Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: \$0.00 LOE: 515

Work Assignment Manager Name

JAMES O. LEE

(Signature)

(Date)

Branch/Mail Code 6204J

Phone Number (202) 343-9723

Fax Number

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number (202) 564-2185

Fax Number (202) 565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-564-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2

Summary Information

Title: Communications Support for Clean Air Markets
Division
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date:
Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: JAMES O. LEE
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
Phone Number: (202) 343-9723
Fax Number:
E-Mail Address: lee.jameso@epa.gov

Deliverable Items

SCHEDULE FOR LOCATION:

Attachments

Attachment Name

Communications Support for Clean Air Markets Division

**Work Assignment
Statement of Work**

Title: Communications Support for Clean Air Markets Division

Work Assignment Number: 1-2

Estimated Level of Effort: 515

BACKGROUND AND SCOPE OF WORK

The Clean Air Markets Division (CAMD) is responsible for developing, implementing and assessing market-based programs ("cap and trade") to reduce emissions and improve air quality. Both the Division and the cap and trade programs it operates, including the Acid Rain Program and NOx Budget Program are widely acknowledged as extremely successful and efficient. The Acid Rain Program has served as a model for numerous subsequent efforts to cost-effectively address regional scale environmental problems caused by air emissions in the U.S. and around the world. The program has resulted in significant, broad-based human health and environmental benefits.

As cap and trade programs grow in number and in scope, promoting the underpinnings of successful programs transparency, accuracy, monitoring, analytical assessment of both new and existing cap and trade programs remains critical. Also critical is expanded and diversified communications of results and projected benefits.

In the past, CAMD has developed and used its program compliance reports and related cap and trade outreach materials to educate policy makers, stakeholders and news makers at the national and state levels and special interest or stakeholder groups, as well as the general public, however the expanded application of the cap and trade mechanism in recent rulemakings and proposed policies, as well as recent assessments of existing programs, require CAMD to continue its outreach and education efforts to a range of interest groups.

CAMD is also responding to new directives to the agency from scientific advisory boards and the National Academy of Sciences in particular to expand the agency's capacity to assess ecological outcomes of air programs and will therefore look to showcase its data and assessment capacity through a variety of media print, Internet, and other means. These directives will require re-packaging and dissemination of CAMD's considerable monitoring, modeling, and assessment data into media suitable to broad-based outreach, including but not limited to stakeholder meetings, presentations, printed materials, and online resources.

CAMD and the Assessment and Communications Branch in particular, have been instrumental in coordinating and facilitating interagency efforts to further human health and environmental assessment capacities, notably, recent efforts to establish criteria for establishing ecological thresholds ('critical loads') to measure recovery from acid deposition, and interagency efforts to develop criteria for a national mercury monitoring network.

CAMD also has responsibilities for the U.S. portion of the U.S./Canada Air Quality Agreement, bilateral efforts to reduce transboundary air pollution, and as such has served as convener and host for meetings and workshops employing trained facilitators and logistical support sensitive to the particular needs of international agreements and diplomatic protocol.

As CAMD's role in furthering the science, assessment capacity and advancing policy tools and cooperation has grown, so has the need for sophisticated reports and communications products that come out of these

proceedings. Technical reports as products of facilitated workshops serve as benchmarks for the process of developing assessment tools and criteria. These products may also spawn technical papers that warrant submission to peer-reviewed journals.

This work assignment is a continuation of work assignment ~~3-12~~ ⁰⁻² under this contract. S2F

TECHNICAL APPROACH

ICFs technical approach to the work assignment includes four tasks: work plan and work assignment management; workshop support including facilitation, outreach and event implementation, and communications material layout and preparation, and facilitation and outreach. ICFs technical approach to each of these tasks is described below.

Task 1: Work Plan and Work Assignment Management

Under this task, ICF will prepare the work plan and cost estimate for this work assignment which includes the approach, resources, schedule, and estimated budget for the tasks below. In addition, ICF will conduct all activities necessary to manage the work assignment, including preparing monthly progress reports, conducting financial reporting, and communicating with the EPA Work Assignment Contracting Officers Representative (COR) to discuss progress and direction under the work assignment.

Task 2: Support for Technical and Stakeholder Workshops

Provide facilitation, logistical, and other support functions for technical and stakeholder workshops.

Activities include securing facilities, preparing agendas, taking notes, assisting with presentations, supplying, setting up, and running audio/video equipment, demonstrating software applications, conducting registration, copying and distributing handouts, and preparing the presentation materials and answers to questions asked during the events, and making such materials ready for posting on EPA websites.

CAMD-sponsored workshops have benefited from a high level of technical facilitation – often subcontractors employed for their specific subject area knowledge – which have also documented proceedings and developed technical workshop reports.

ICF will assist CAMD in convening up to three technical workshops and/or stakeholder meetings as a function of CAMDs regulatory implementation and ecological assessment work.

Meeting topics include long-term environmental monitoring networks, environmental monitoring (e.g., atmospheric concentration and deposition, aquatic and terrestrial chemistry, biological change) to track and evaluate environmental and human health response to emissions reductions of NO_x, SO₂, mercury, and their byproducts; environmental assessment approaches (e.g., critical loads), indicator development and tracking, and support to transboundary pollution control efforts (e.g. U.S./Canada Air Quality Agreement).

For 2009, a Clean Air Status and Trends Network (CASTNET) workshop is tentatively scheduled for late August. CAMD will also play a central role in facilitating a meeting of the U.S.-Canada Air Quality Agreement, currently scheduled for November.

The date and location of other workshops will be specified by EPA through technical direction.

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2

The costs for the events may include providing technical facilitation and/or expertise, subcontracting non-federal expertise, logistical support, materials preparation and on-site assistance. Support may include refreshments, equipment, and travel for ICF staff or relevant subcontractors. ~~As the specifics for the other workshops are not known at this time, ICFs cost estimate assumes similar costs as for previous, similar workshops.~~ SEP

Task 3: Communications, Outreach, Design, Graphics

Design and prepare information materials, including fact sheets, reports of proceedings, technical reports, and guidance documents (may include web-based, written, audio-visual, and electronic materials). Provide graphic, editorial and report drafting support for technical documents, and where appropriate support with technical expertise. Such support may include technical writing and communication of technical, economic, scientific, and other information.

ICF will provide also support for the editing, layout and development of communications products, specifically, topical fact sheets for print and web-posting, posters and similar publications reflecting division activities such as follow-on to workshops as needed. ICF will also provide a pdf format for website posting. ~~For budgeting purposes, ICF has assumed between two and five fact sheets that will use consistent design elements and will involve no research and minimal editing.~~ SEP
Production may require acquisition of stock images.

United States Environmental Protection Agency
Washington, DC 20460**Work Assignment**Work Assignment Number
1-2☐ Original ☒ Amendment Number: 1Contract Number
EP-W-08-018Contract Period
Base Option Period NumberTitle of Work Assignment
Communications Support for Clean Air
Markets DivisionContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan ApprovalPeriods of Performance
From: 04/16/09 To: 03/10/10

Comments:

This Amendment requests the contractor to prepare and deliver a workplan and cost estimate in accordance with the contract, and revised Work Assignment requirements as follows: 1) the period of performance is from 4/16/09 through 3/10/10 and 2) the SOW removes the contractor's assumptions, and notes that this assignment is a logical follow-on to WA 0-2.

☐ Superfund**Accounting and Appropriations Data**☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 8)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment CeilingContract Period: Cost/Fee LOE
Previously Approved \$0.00 515

This Action \$0.00 0

Total \$0.00 515

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: \$0.00 LOE: 515

Work Assignment Manager Name

JAMES O. LEE

Branch/Mail Code 6204J

Phone Number (202) 343-9723

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number (202) 564-2185

Fax Number (202) 565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2, Amendment: 0001

Summary Information

Title: Communications Support for Clean Air Markets
Division
Period of Performance: From: 04/16/09
To: 03/10/10
Award Date: 04/16/09
Total Funding:

Attachments

The following item(s) have been modified:

Document Communications Support for Clean Air Markets Division was modified.

**Work Assignment
Statement of Work****Title: Communications Support for Clean Air Markets Division****Work Assignment Number: 1-2****Estimated Level of Effort: 515****BACKGROUND AND SCOPE OF WORK**

The Clean Air Markets Division (CAMD) is responsible for developing, implementing and assessing market-based programs ("cap and trade") to reduce emissions and improve air quality. Both the Division and the cap and trade programs it operates, including the Acid Rain Program and NOx Budget Program are widely acknowledged as extremely successful and efficient. The Acid Rain Program has served as a model for numerous subsequent efforts to cost-effectively address regional scale environmental problems caused by air emissions in the U.S. and around the world. The program has resulted in significant, broad-based human health and environmental benefits.

As cap and trade programs grow in number and in scope, promoting the underpinnings of successful programs transparency, accuracy, monitoring, analytical assessment of both new and existing cap and trade programs remains critical. Also critical is expanded and diversified communications of results and projected benefits.

In the past, CAMD has developed and used its program compliance reports and related cap and trade outreach materials to educate policy makers, stakeholders and news makers at the national and state levels and special interest or stakeholder groups, as well as the general public, however the expanded application of the cap and trade mechanism in recent rulemakings and proposed policies, as well as recent assessments of existing programs, require CAMD to continue its outreach and education efforts to a range of interest groups.

CAMD is also responding to new directives to the agency from scientific advisory boards and the National Academy of Sciences in particular to expand the agency's capacity to assess ecological outcomes of air programs and will therefore look to showcase its data and assessment capacity through a variety of media print, Internet, and other means. These directives will require re-packaging and dissemination of CAMD's considerable monitoring, modeling, and assessment data into media suitable to broad-based outreach, including but not limited to stakeholder meetings, presentations, printed materials, and online resources.

CAMD and the Assessment and Communications Branch in particular, have been instrumental in coordinating and facilitating interagency efforts to further human health and environmental assessment capacities, notably, recent efforts to establish criteria for establishing ecological thresholds ('critical loads') to measure recovery from acid deposition, and interagency efforts to develop criteria for a national mercury monitoring network.

CAMD also has responsibilities for the U.S. portion of the U.S./Canada Air Quality Agreement, bilateral efforts to reduce transboundary air pollution, and as such has served as convener and host for meetings and workshops employing trained facilitators and logistical support sensitive to the particular needs of international agreements and diplomatic protocol.

As CAMD's role in furthering the science, assessment capacity and advancing policy tools and cooperation has grown, so has the need for sophisticated reports and communications products that come out of these

proceedings. Technical reports as products of facilitated workshops serve as benchmarks for the process of developing assessment tools and criteria. These products may also spawn technical papers that warrant submission to peer-reviewed journals.

This work assignment is a continuation of work assignment 0-2 under this contract.

TECHNICAL APPROACH

ICFs technical approach to the work assignment includes four tasks: work plan and work assignment management; workshop support including facilitation, outreach and event implementation, and communications material layout and preparation, and facilitation and outreach. ICFs technical approach to each of these tasks is described below.

Task 1: Work Plan and Work Assignment Management

Under this task, ICF will prepare the work plan and cost estimate for this work assignment which includes the approach, resources, schedule, and estimated budget for the tasks below. In addition, ICF will conduct all activities necessary to manage the work assignment, including preparing monthly progress reports, conducting financial reporting, and communicating with the EPA Work Assignment Contracting Officers Representative (COR) to discuss progress and direction under the work assignment.

Task 2: Support for Technical and Stakeholder Workshops

Provide facilitation, logistical, and other support functions for technical and stakeholder workshops.

Activities include securing facilities, preparing agendas, taking notes, assisting with presentations, supplying, setting up, and running audio/video equipment, demonstrating software applications, conducting registration, copying and distributing handouts, and preparing the presentation materials and answers to questions asked during the events, and making such materials ready for posting on EPA websites.

CAMD-sponsored workshops have benefited from a high level of technical facilitation – often subcontractors employed for their specific subject area knowledge – which have also documented proceedings and developed technical workshop reports.

ICF will assist CAMD in convening up to three technical workshops and/or stakeholder meetings as a function of CAMDs regulatory implementation and ecological assessment work.

Meeting topics include long-term environmental monitoring networks, environmental monitoring (e.g., atmospheric concentration and deposition, aquatic and terrestrial chemistry, biological change) to track and evaluate environmental and human health response to emissions reductions of NO_x, SO₂, mercury, and their byproducts; environmental assessment approaches (e.g., critical loads), indicator development and tracking, and support to transboundary pollution control efforts (e.g. U.S./Canada Air Quality Agreement).

For 2009, a Clean Air Status and Trends Network (CASTNET) workshop is tentatively scheduled for late August. CAMD will also play a central role in facilitating a meeting of the U.S.-Canada Air Quality Agreement, currently scheduled for November.

The date and location of other workshops will be specified by EPA through technical direction.

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2, Amendment: 0001

The costs for the events may include providing technical facilitation and/or expertise, subcontracting non-federal expertise, logistical support, materials preparation and on-site assistance. Support may include refreshments, equipment, and travel for ICF staff or relevant subcontractors.

Task 3: Communications, Outreach, Design, Graphics

Design and prepare information materials, including fact sheets, reports of proceedings, technical reports, and guidance documents (may include web-based, written, audio-visual, and electronic materials). Provide graphic, editorial and report drafting support for technical documents, and where appropriate support with technical expertise. Such support may include technical writing and communication of technical, economic, scientific, and other information.

ICF will provide also support for the editing, layout and development of communications products, specifically, topical fact sheets for print and web-posting, posters and similar publications reflecting division activities such as follow-on to workshops as needed. ICF will also provide a pdf format for website posting. Production may require acquisition of stock images.



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number
1-2

☐ Original ☒ Amendment Number: 2

Contract Number
EP-W-08-018

Contract Period
Base Option Period Number 1

Title of Work Assignment
Communications Support for Clean Air
Markets Division

Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance
From: 04/16/09 To: 03/10/10

Comments:

The purpose of this amendment is to approve the contractor's workplan and cost estimate (dated May 26, 2009). The authorized dollar ceiling amount is \$57,060.00; the contractor shall not exceed this amount without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$0.00	515
This Action	\$57,060.00	0
Total	\$57,060.00	515

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 05/26/09	Cost/Fee: \$57,060.00	LOE: 515
Cumulative Approved:	Cost/Fee: \$57,060.00	LOE: 515

Work Assignment Manager Name

ERIKA J. WILSON

(Signature)

(Date)

Branch/Mail Code 6204J

Phone Number (202) 343-9113

Fax Number (202) 343-2360

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number (202) 564-2185

Fax Number (202) 565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2, Amendment: 0002

Summary Information

Title: Communications Support for Clean Air Markets
Division
Period of Performance: From: 04/16/09
To: 03/10/10
Award Date: 04/16/09
Total Funding:

Procurement Management Roles

The following item(s) have been modified:

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: JAMES O. LEE
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Date Role Ended: 07/08/09

Mail Code: 6204J
Phone Number: (202) 343-9723
Fax Number:
E-Mail Address: lee.jameso@epa.gov

The following item(s) have been added:

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: ERIKA J. WILSON
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
Phone Number: (202) 343-9113
Fax Number: (202) 343-2360
E-Mail Address: wilson.erika@epa.gov

WA Totals

The following item(s) have been added:

Category	POP	Amount
Estimated Cost	Option 1	\$ (b)(4)
Fixed Fee	Option 1	

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number
1-2☐ Original ☒ Amendment Number: 3Contract Number
EP-W-08-018Contract Period
Base

Option Period Number

Title of Work Assignment
Communications Support for Clean Air
Markets DivisionContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 04/16/09

To: 03/10/10

Comments:

This amendment changes the EPA personnel (Work Assignment Manager, and Administrative Contracting Officer) assigned to this Work Assignment.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$57,060.00	515
This Action	\$0.00	0
Total	\$57,060.00	515

Work Plan / Cost Estimate Approvals

Contractor WP Dated :	Cost/Fee:	LOE:
Cumulative Approved:	Cost/Fee: \$57,060.00	LOE: 515

Work Assignment Manager Name

GEORGE E. BOWKER

Branch/Mail Code 6204J

Phone Number (202) 343-9645

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number (202) 564-2185

Fax Number (202) 565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number (202) 564-1041

Fax Number (202) 565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2, Amendment: 0003

Summary Information

Title: Communications Support for Clean Air Markets
Division
Period of Performance: From: 04/16/09
To: 03/10/10
Award Date: 04/16/09
Total Funding:

Procurement Management Roles

The following item(s) have been modified:

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: ERIKA J. WILSON
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Date Role Ended: 08/03/09

Mail Code: 6204J
Phone Number: (202) 343-9113
Fax Number: (202) 343-2360
E-Mail Address: wilson.erika@epa.gov

ADMINISTRATIVE CONTRACTING OFFICER:

U.S. E.P.A.
Attn: SHELBY N. SCHULLER
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Date Role Ended: 08/03/09

Mail Code: 3803R
Phone Number: 202-564-0966
Fax Number: 202-564-2554
E-Mail Address: schuller.nicole@epa.gov

The following item(s) have been added:

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: GEORGE E. BOWKER
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
Phone Number: (202) 343-9645
Fax Number:
E-Mail Address: bowker.george@epa.gov

ADMINISTRATIVE CONTRACTING OFFICER:

U.S. E.P.A.
Attn: DEBRA A. MILLER
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2, Amendment: 0003

Mail Code: 3803R

Phone Number: (202) 564-1041

Fax Number: (202) 565-2554

E-Mail Address: miller.debbie@epa.gov

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-2

Work Assignment☐ Original ☒ Amendment Number: 4Contract Number
EP-W-08-018Contract Period
Base

Option Period Number

Title of Work Assignment
Communications Support for Clean Air
Markets DivisionContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 04/16/09

To: 03/10/10

Comments:

The purpose of this amendment is to increase the LOE from 515 to 535, and to revise the Work Assignment SOW (see attached). As a result, the contractor is requested to provide their revised workplan and cost estimate.

☐ Superfund**Accounting and Appropriations Data**☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 8)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$57,060.00	515
This Action	\$0.00	20
Total	\$57,060.00	535

Work Plan / Cost Estimate Approvals

Contractor WP Dated:	Cost/Fee:	LOE:
Cumulative Approved:	Cost/Fee: \$57,060.00	LOE: 535

Work Assignment Manager Name

GEORGE E. BOWKER

Branch/Mail Code 6204J

Phone Number (202) 343-9645

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number (202) 564-2185

Fax Number (202) 565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

FOR
DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number (202) 564-1041

Fax Number (202) 565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2, Amendment: 0004

Summary Information

Title: Communications Support for Clean Air Markets
Division
Period of Performance: From: 04/16/09
To: 03/10/10
Award Date: 04/16/09
Total Funding:

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 515 to 535.

Supplemental workshop support for Task 2 (revised SOW attached)

Amendment to Work Assignment 1-2

Title: Communications Support for Clean Air Markets Division

Contractor: ICF Consulting

Contract No.: EP-W-08-018

Period of Performance: 04/16/09 to 03/10/10

Date of Issuance: 09/29/09

Estimated Additional Level of Effort: 20

Work Assignment Manager:

**George E Bowker
OAP/CAMD/ACB (6204J)
202-343-9645
202-343-2360 fax**

Project Officer:

Sherman Farves

Task 4: Supplement workshop support specified under Task 2.

This task is to supplement the support for and provide specifics about the third workshop listed under Task 2 of the approved work plan. Specifically, the contractor shall provide an additional 20 hours of support for EPA at this workshop. The workshop will take place in Saratoga Springs, New York, rather than in Washington DC or Research Triangle Park, NC. Consequently, the contractor shall travel to Saratoga Springs, New York.

This third workshop will be held at the National Atmospheric Deposition Program (NADP) meeting in Saratoga Springs, New York in early October (the 7th, and 8th). In terms of support for this workshop, EPA would like a set of notes to be taken, documenting the discussion. Furthermore, we would like assistance in facilitating the discussion by having the contractor document major discussion points in a manner visible to participants during the meeting. The contractor shall provide an electronic copy of the discussion notes within two weeks of completion of the workshop.

The IGCE will be increased to reflect the additional level of effort and the additional travel expenses.

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-2

Work Assignment☐ Original ☒ Amendment Number: 5Contract Number
EP-W-08-018Contract Period
Base

Option Period Number

Title of Work Assignment
Communications Support for Clean Air
Markets DivisionContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 04/16/09

To: 03/10/10

Comments:

The purpose of this amendment is to approve the contractor's revised workplan and cost estimate (ICF letter dated 10-19-09). The revised authorized ceiling amount is \$59,849.00; the contractor shall not exceed this amount without prior approval from the Contracting Officer.

☐ Superfund**Accounting and Appropriations Data**☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$57,060.00	535
This Action	\$2,789.00	0
Total	\$59,849.00	535

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 10/19/09	Cost/Fee: \$59,849.00	LOE: 535
Cumulative Approved: 10/28/09	Cost/Fee: \$59,849.00	LOE: 535

Work Assignment Manager Name

GEORGE E. BOWKER

Branch/Mail Code 6204J

Phone Number (202) 343-9645

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number (202) 564-2185

Fax Number (202) 565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number (202) 564-1041

Fax Number (202) 565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Communications Support for Clean Air Markets Division

Contract: EP-W-08-018, Work Assignment: 1-2, Amendment: 0005

Summary Information

Title: Communications Support for Clean Air Markets
Division
Period of Performance: From: 04/16/09
To: 03/10/10
Award Date: 04/16/09
Total Funding:

WA Totals

The following item(s) have been modified:

Category	POP	From	By	To
Estimated Cost	Option 1	\$ (b)(4)	\$ (b)(4)	\$ (b)(4)
Fixed Fee	Option 1			



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number
1-3

Work Assignment

☒ Original ☐ Amendment Number:

Contract Number
EP-W-08-018

Contract Period
Base Option Period Number

Title of Work Assignment
Technical Support for Clean Air Markets
Division - Regulatory Development Activities

Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The contractor shall prepare and delivery a workplan and cost estimate in accordance with the contract.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Cost/Fee LOE
Previously Approved

This Action

Total \$0.00 9,000

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: \$0.00 LOE: 9,000

Work Assignment Manager Name

GENE-HUA SUN

Branch/Mail Code 6204J

Phone Number 202-343-9119

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Technical Support for Clean Air Markets Division - Regulatory Development Activities

Contract: EP-W-08-018, Work Assignment: 1-3

Summary Information

Title: Technical Support for Clean Air Markets Division -
Regulatory Development Activities

Period of Performance: From: 03/11/09
To: 03/10/10

Award Date:

Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: GENE-HUA SUN
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
Phone Number: 202-343-9119
Fax Number:
E-Mail Address: sun.gene@epa.gov

Deliverable Items

SCHEDULE FOR LOCATION:

WORK ASSIGNMENT STATEMENT OF WORK

Title: Technical Support for Clean Air Markets Division Regulatory Development Activities in Option Year 1.

Contractor and Contract #: EP-W-08-018

Work Assignment #: 1-3

Estimated Level of Effort: Up to 9,000 hours for Option Year 1; Government will fund and authorize 1,900 hours LOE after approves the work plan. Depend on the funding situation, Government will optional, in up to four times increments, to add more funds and raise the LOE to full 9,000 hours level

Duration: March 10, 2009 – March 6, 2010

EPA Key Personnel:

Work Assignment Contracting Officer's Representative (WACOR):

Gene-Hua Sun
USEPA/OAR/OAP/CAMD/PDB, 6204J
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Phone: (202)343-9119
Fax: (202)343-2359
E-Mail: Sun.Gene-Hua@epa.gov

Contracting Officer: Sherman Farves
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Mail Code 3805 R
Phone: (202) 564-2185
Fax: (202) 565-2558
E-mail: Farves.Sherman@epa.gov

I. BACKGROUND AND PURPOSE

This is the continuous effort, starting from Work Assignment 0-3 of this contract, to acquire the technical support from contractor in supporting CAMD/EPA regulatory development activities. Under this work assignment, the contractor shall use the developed "Integrated Planning Model (IPM) Version 3.0, 4.0 and/or newer version to support the CAMD regulatory development activities by estimating the operational costs, emission reductions, and providing the technical

analyses for the economic impacts to the electric power generating sector and users for current regulatory development under the multiple pollutant control strategy. Activities covered in this work assignment include modeling, analyses, and assessment in support of policy development, rulemaking, and impact evaluations related to power generation and other stationary sources, energy consumption, and the pollutants associated with the power sector and other stationary sources, including sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter (PM_{2.5}), mercury (Hg), and other toxic air pollutants as well as emissions of carbon dioxide (CO₂) and other greenhouse gases. Activities may be related to the Clean Air Interstate Rule (CAIR), Clean Air Mercury Rule (CAMR), New Source Performance Standards (NSPS), New Source Review (NSR), Maximum Achievable Control Technology (MACT), or other regulatory actions, policy development, or legislative proposals."

Additionally, regulatory support activities also include work related to air quality improvement (NAAQS Review, State Implementation Plans (SIPs), air toxics (MACT reviews), and greenhouse gases (e.g., Federal voluntary programs to lower GHGs and development of cleaner technology, while States begin to address GHGs (e.g. RGGI, California, etc.) and Congress considers legislation (e.g., implementation of mandatory emissions reporting, Senate and House developing comprehensive legislation, etc.)).

On March 10, 2005, the Administrator signed the final Clean Air Interstate Rule (CAIR), a rule that will ensure that Americans continue to breathe cleaner air by dramatically reducing air pollution that moves across state boundaries in 28 eastern states. By 2015, CAIR will provide health and environmental benefits valued at over 25 times the cost of compliance, and those benefits will continue to grow.

CAIR will permanently cap emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) in the eastern United States. When fully implemented, CAIR will reduce SO₂ emissions in 28 eastern states and the District of Columbia by over 70 percent and NO_x emissions by over 60 percent from 2003 levels. This will result in more than \$100 billion in health and visibility benefits per year by 2015 and will substantially reduce premature mortality in the eastern United States, and these benefits will continue to grow each year with further implementation.

Following promulgation of the final rule in March 2005, on June 21, 2005, in support of the proposal to include New Jersey and Delaware in the CAIR region for purposes of controlling fine particle pollution in downwind states, EPA issued a notice to announce the availability of modeling data which was designed to ensure emissions reductions required under CAIR are achieved. In this notice, EPA also extended the comment period for the NJ and DE proposal so that it aligns with the comment period for this new data.

EPA proposed a federal implementation plan (FIP) on August 1, 2005 (which was finalized on March 15, 2006) to require power plants in CAIR states to participate in one or more of three separate cap and trade programs. EPA also proposed it respond to a North Carolina petition that requested the Agency to require emission reductions in several upwind states.

In addition, the EPA Administrator received eleven petitions for reconsideration. While the Agency does not believe that the final decision was in error, on November 22, 2005 EPA granted the reconsideration and provided an additional opportunity for public comment on issues related

to the final rule, including: (1) claims that inequities resulted from applying the sulfur dioxide allocation methodology that states choosing to participate in the CAIR SO₂ trading program would use to allocate SO₂ emissions allowances to sources; (2) EPA's use of fuel adjustment factors (1.0 for coal, 0.6 for oil, and 0.4 for gas) in establishing state nitrogen oxides (NO_x) budgets; (3) certain inputs to the fine particle (PM_{2.5}) modeling used to determine Minnesota's inclusion in the CAIR region for PM_{2.5}; and (4) EPA's determination that Florida should be included in the CAIR region.

On December 22, 2005, EPA decided to add an additional aspect to the reconsideration of the CAIR. This involved the examination the impact of a recent D.C. Circuit Court decision (*N.Y. v. EPA*, 413 F.3d 3 (D.C. Cir. 2005) on analyses used in developing CAIR. This decision vacated the pollution control project (PCP) exclusion in the New Source Review (NSR) regulation. The exclusion allowed for certain environmentally beneficial PCPs to be excluded from certain NSR requirements. Even EPA's analysis shows that the court decision does not impact the CAIR analyses, EPA decided to provide an opportunity for public comment on the issue and did not propose any changes to CAIR at that time. The final rule for CAIR Reconsideration was signed on April 28, 2006.

Regarding mercury emission reductions, on March 15, 2005, EPA issued the first regulation in the world to regulate mercury emissions from coal-fired power plants. This rule creates a market-based cap-and-trade program that will permanently cap utility mercury emissions in two phases: (1) The first phase of the rule sets a cap of 38 tons and is projected to reduce emissions from 48 tons to 31 tons beginning in 2010, and (2) Emissions will continue to decline thereafter until they are reduced to the second phase cap of 15 tons when the program is fully implemented. The mandatory declining caps, coupled with significant penalties for noncompliance, will ensure that mercury reduction requirements are achieved and sustained.

Following promulgation of the final rules, the EPA Administrator received four petitions for reconsideration. The CAMR reconsideration, announced on October 21, 2005 agreed to reconsider seven aspects of the CAMR final rules, such as the method used to apportion the national caps to individual states; the definitions of "designated pollutant; ..., etc.. CAMD may work in conjunction with other EPA offices (e.g., OAQPS) in development of other mercury emission reduction programs.

In the past, air emissions from the power sector were regulated one pollutant at a time and the regulations were developed under various authorities. Industry has developed and implemented control technologies in incremental steps to mitigate emissions of SO₂, NO_x, particulate matter, and other pollutants, as driven by air pollution policies and regulations. Experience with the interactive effects of previous regulatory approaches, a better understanding of control technology synergies, growing knowledge about the co-benefits of controlling various combinations of pollutants, as well as the growing concern over the continuing environmental impacts of the power generating sector have lead to proposals for integrated approaches to control air emissions from the power generating sector. Most of these integrated approaches include the control of SO₂, NO_x and Hg emissions. Some of the multi-pollutant control technologies have reached a stage of development beyond pilot scale. Included are those technologies that integrate during- and/or post-combustion controls of at least two of the SO₂, NO_x, mercury pollutants, and CO₂ emissions, either in one process or a combination of

coordinated and complementary processes. Some of the new coal-fired electricity-generating technologies, which are inherently more efficient than conventional coal-fired power plants, have the potential to generate lower emission of air pollutants and CO₂.

Under this work assignment, the contractor shall implement the technical support effort from Contract EP-W-08-018 Optional Year 1 to:

- (1) Provide the technical and economic studies under the criteria established by the Work Assignment Contract Officer's Representative (WACOR) and CAMD technical staff to support routine EPA rule making processes;
- (2) Evaluate the operational cost and effects among the installed Air Pollutants Control Devices (APCDs), combustor efficiency improvement and its co-benefits on CO₂ reductions, and economic impacts under proposed multi-pollutant reduction rules for fossil fuel fired electric generating units;
- (3) Assess the feasibility and reliability of installing air pollution control technologies for proposed rules in the electric power generating sector under given time frames;
- (4) Assess the uncertainties associated with major parameters used in the IPM model to support CAMD regulatory development activities; and
- (5) Assist the administration in preparing white papers and Microsoft Power Point related slide presentations in answering Congressional and inter-agency demand and public comments related to the products generated from this work assignment.

II. CONTRACT LEVEL STATEMENT OF WORK REFERENCE

The tasks to be performed under this work assignment are consistent with the areas of analyses authorized in sections A through I of the contract's Statement of Work:

III. STATEMENT OF WORK TASKS

TASK 1: Prepare Work Plan

The Contractor shall prepare a Work Plan for 9,000 hours with the understanding that the Government will only approve the LOE of 1,900 hours in prorated base to start this work assignment. Government will make efforts to make stepwise (up to four times) increment to fund remaining LOE under this work assignment. Because this work assignment covered under two government Fiscal Year, pending on the funding situation and the needs, Government reserves the right not to continue this task after the exhaust the first 1,900 hour LOE.

Deliverables shall be completed and submitted to EPA/OAR/OAP/CAMD as specified in this work assignment, except to the extent that content or dates are changed through the initiation or

full agreement of EPA/OAR/OAP/CAMD. The contractor can use the results obtained from, but not duplicate services provided under Work Assignment 0-3 and several work assignments from the previous contract.

The contractor shall expect to provide ad-hoc responses for not more than 25% of the LOE involvement. The contractor shall realize that the allocation of effort required under each work area under this work assignment may vary during actual performance. The contractor shall closely work with the WACOR through the course of this work assignment to ensure the best of use of LOE under limited funds available. The contractor shall notify the WACOR when 90% of the work assignment hours or approved funding level has been accumulated in contractor's accounting system.

TASK 2: Regulation Compliance Costs Analysis to support CAMD/PDB for various Rule Making Processes

The Contractor shall use the Integrated Planning Model (IPM) version 3.0, 4.0 and/or newer version in planning to estimate the national, regional and state compliance costs for the emission reductions established through various multipollutant reduction regulations as specified in the background section. The Agency estimates up to 80 IPM runs will be needed to support one year of the CAMD rule making procedures under this work assignment. The contractor shall expect to parse up to 25 % of these runs (i.e. up to 20 IPM runs) for detailed boiler level information to support EPA's technical studies. The WACOR will issue written requests for runs which need to be parsed when specific needs have been identified thru the work assignment order durations. These 80 IPM runs will be used to address the following specific areas:

1. Routine studies: Based on the emission caps established in different regulations and the newly available control cost information acquired during the course of this work assignment, CAMD will need specific IPM runs (e.g. under IPM version 3.0, 4.0 and/or newer version depending on the purpose of the study and the reference base case used for that study) to support CAMD technical studies in order to address issues related to policy development, economic impact assessment, interrogatories from inter- and/or intra-agency effort in rule development, responses to comments from Congressional committees and/or other environmental organizations, and the litigation of the regulations involved with CAMD regulatory development activities, (e.g., CAIR and/or CAMR and its Reconsideration(s)). The Agency also needs to conduct sensitivity, reliability, and feasibility studies for the electric power generating system in installing and/or retrofitting air pollution control devices available in the market for the electric power generating industry to use in compliance with air pollutant reduction regulations. The WACOR estimates that 30 IPM runs under this work assignment will be needed to address these routine studies. For routine analyses, the contractor shall deliver the study results from these IPM runs to the agency three weeks after receiving the written notice from the WACOR. The contractor shall expect that 25% of these routine IPM runs will be issued in an ad-hoc manner. Results from ad-hoc runs should be delivered to the WACOR within three days after receiving the WACOR's written requests. For each IPM run, the WACOR will work with CAMD technical staff to determine the input data criteria (i.e., allowable options, limiting parameters, reference base case or policy cases

identification, emission caps, and specific constraints) for each IPM model run. These criteria and parameters will be generated based on: (1) The economic analyses needed to examine regulatory options, (2) Comments which the Agency received during the course of this work assignment, or (3) New information received during the CAIR and/or CAMR litigation processes. The contractor shall summarize and present to the WACOR the run specification by Excel style spreadsheet before each IPM run. Upon receiving the approval from the WACOR, the contractor shall perform these IPM runs. The contractor shall deliver results in the electronic and/or hard copy format according to the deliverable schedules specified in the WACOR's written request for the ad-hoc runs. For non-ad-hoc IPM runs, deliverables shall be delivered as specified in the deliverables schedules attached at the end of this Statement of Work.

2. Specific studies to support and/or to revise may include "Financial Analysis," "Potential Impacts Upon Employment in Other Economic Sectors," "Continuing Support in the Implementation of the National Energy Policy," "Support for Response to Congressional Requests," "Analysis of Impacts of Carbon Regulations," and "Costs, Performance, and Availability of Applicable NOx and SO2 Control Measures for Existing and New Cement Kilns in the U.S." Details of these analyses will be discussed in Task 3. The WACOR estimates that 25% of the IPM runs effort will be used in this category.

3. Studies to support "Analysis of Allowance Allocation Options". More detail of these runs will be discussed in Task 6. The WACOR estimates that 15% of the IPM runs will be used to support this category.

4. Potentially 6-12 studies will be required, in which the contractor shall analyze nuclear generation as it relates to overall electric generation. Analysis may include examining the economics of nuclear power generation, costs associated with nuclear re-licensing and/or life extension, and cost and performance of new nuclear generation.

5. Analyses to provide technical support for complimentary rulemakings for the power sector, including the litigation of the CAIR Reconsideration, any possible mercury legislation (which might be related to CAMR or MACT), Best Available Retrofit Technology (BART), and Maximum Achievable Control Technology (MACT) rule would affect such rule development and/or proposed legislation. The remaining portion of IPM runs will be used to support items 4 and 5 of this task.

For items 2 through 5, the WACOR will work with the CAMD technical staff to determine the allowable options and limiting parameters for each of the IPM model analyses. These options and parameters will also be generated based on: (1) The economic analyses needed to examine the regulatory option, (2) The specific studies generated from the Congressional request, or (3) Specific benefit analyses required for RIA. The WACOR will issue a written request to the contractor to specify these criteria and deliverable schedule. The contractor shall perform these IPM runs and deliver the results (i.e., electronic and/or hard copy) to the WACOR as specified in the written request. Other deliverable items not specified in the WACOR's written request shall be

delivered as specified in the deliverables schedule attached at the end of this Statement of Work.

TASK 3: Technical Analyses and Documents Preparation for Regulatory Impact Analyses Related Rulemaking Processes

In order to continue the support of the multi-pollutant reduction rule making efforts under CAIR, CAIR Litigation, any mercury rulemaking activities (that may include revisiting aspects of CAMR), NSR, Section 812 for the Title IV of the CAAA and/or CAIR, NSR settlements, NSPS, the Geological Sequestration Rule, and the GHG Inventory Rulemaking, the following technical analyses and documentation preparation may be required by the rule making processes:

1. Financial Analyses: in this area, when needed, the WACOR will issue a written request for the contractor to enhance the financial analyses originally developed by ICF in the previous contract (and subsequent work assignment(s)). The enhancement shall include the findings and specific data obtained in new IPM runs for the case studies specified in Task 2 of this Statement of Work. Topics which need to be updated include power plant economic and viability issues, market efficiency studies, and financial distress analyses. The financial analyses shall include the IPM run results which address the results from assumptions of different emissions control levels, alternative control performance, alternative fuel cost, projection of the types of new power plants on line, and alternative financial assumptions. The relationship developed between these new IPM runs and financial studies shall help the Government to determine the potential impacts on retail electricity prices, coal production, employment, and electricity generation at the State, regional and national levels. The contractor shall also provide the results of these studies to help the Agency to determine the financial impacts of the Best Available Retrofit Technology (BART) and Maximum Achievable Control Technology (MACT) to the rule development activities currently in progress.
2. Regarding the feasibility of installing air pollution control technologies, the contractor shall examine the time needed to install controls and the impact on electric reliability. The contractor shall assist the Agency to identify the control technology installations needed to meet the various emission cap levels for SO₂, NO_x and mercury by the expected time frame. Analysis shall examine the affects on the power utility sector reliability and boiler outage period for the installation of control technologies. Such efforts would assist CAMD in analyzing and assessing NO_x, SO₂, and mercury emission control science/testing and their respective parametric cost and performance. After receiving the WACOR's written request, the contractor shall provide the WACOR with the essential information to identify the hot spots (e.g. regions in the country which are projected to have higher percentages of control technology installations) and the time frame required for electrical power generation sector to install or retrofit these control technologies.
3. In the support of activities such as the response to Congressional, OMB, inter- or intra-agency requests, and comments received during the public comment periods, the contractor shall provide ad-hoc technical analyses to support the EPA in preparation

documentation to respond to Congressional, OMB, and inter- or intra-agency requests for technical evaluation of information. In addition to using the IPM model (e.g. both version 3.0, 4.0 and/or newer version depending to the type of analyses), the contractor shall also first upgrade and use the off-line analysis tools, such as TRUM model which needs to be upgraded under this work assignment to match the IPM version 4.0 assumptions, to perform this sub-task. The contractor shall expect no more than ten (10) studies in this sub-task. When all of them need to be done by TRUM, the contract shall expect no more than 30% of these TRUM model run results will be requested by the WACOR's TD to be verified by full scale of the IPM model run. Draft reports resulting from these quick turn-around operations are due five (5) working days after receiving the WACOR's written request. Implementation of a new modeling platform to demonstrate potential air quality benefits available through energy efficiency measures on HEDDs will require 1) enabling IPM to output results at an hourly level, and 2) synchronizing IPM and the air quality modeling platform (CMAQ) in their use of meteorological data and energy demand data, 3) conducting two runs with and without energy efficient measures to analyze reduction in emission levels on HEDD days, and 4) preparing air quality modeling ready files.

4. EPA may chose to undertake analysis related to the costs, performance, and availability of applicable NO_x and SO₂ control measures for existing and new cement kilns in the U.S. Such analysis will be issued to the contractor as a technical direction. Current LOE for this analysis should not exceed 100 hours.

In addition, when performing the analyses specified in items 1, 2, and 3 of this task, the contractor shall identify the impact of these changes to the existing regulatory support documents, including the documentation for the economic analyses (EA), the Small Business Regulatory Enforcement Fairness Act (SBREFA), and the Unfunded Mandates Reform Act (UMRA). The contractor shall summarize and present the differences between the results from these new studies and from the existing regulatory support documents to the WACOR. When the differences are significant, the WACOR will issue a written request to the contractor clarifying the sections and the contents in these documents which need to be updated to reflect the new study results.

Depending on the significance of new information, the WACOR will issue a written request for the documentation specified as above. Upon receiving a written request, the contractor shall prepare the draft update documentation and deliver it to the WACOR for review. The contractor shall expect up to two (2) revisions prior to finalization of these documents.

TASK 4: Upgrade the TRUM software and Analysis of Sensitivity of Control Costs for NO_x, SO₂ and Mercury (Hg) Generated Among the Proposed Rules Developed under Multi-pollutant Reduction Technologies

As part of the efforts in collecting control technology information to support the future NEEDS database, the contractor shall work with the WACOR through TD to provide technical support for collecting and developing algorithms for capital, fixed O&M, and variable O&M costs for

existing IGCC facilities and pollution control technologies (e.g., such as wet ESP, solvent injection, SO₂ control and similar technologies) installed in existing fossil-fueled power generating units. Because of the slow responses from the industry, the WACOR recognizes these continuous efforts shall be handled through the full contract period. For the budget purpose, upgraded NEEDS database is only listed as a potential working area. The contractor shall be ready to work on this area when receiving the written notice from WACOR when new data becomes available.

The NEEDS database and IPM model version 4.0 and/or will reflect the updates from previous IPM and NEEDS versions regarding the model plants (e.g., basic units used in IPM models to group similar characteristics boilers in the sense of the boiler types, fuel uses, allowable emission control device selection, etc.). The TRUM model, a simplified IPM full version, uses a reduced model plants package with limited user choice variables but is capable of representing the full version IPM run with some deviation. This capability can save the Government a lot of computer time and facility requirements (e.g., CPU speed, installed memory size, and hard-disk space). Since the TRUM model is not as powerful as the full version of the IPM, it allows CAMD to do in-house quick and rough evaluations of sensitive issues in the rulemaking process without requiring time consuming full IPM version model runs. An older version of the TRUM model is based on an earlier version of the NEEDS. In order to provide the Government the same level of support, under this work assignment, the contractor shall update the TRUM model based on NEEDS database which support IPM model 4.0 or newer. This updated model should be developed in a stand-alone software manner so it can either be installed and used by CAMD staff when installed in EPA owned equipment, or be installed in a contractor designated and security-cleared machine in the contractor's office with the criteria (such as boundary condition, run years) set by CAMD experts. This option will provide the Government a choice to run this model in the most cost effective way if the Government experiences a manpower shortage during the major data crunch period.

TASK 5: Update IPM Parameters and Capabilities in Support of Sensitivity Study as Specified in Task 2

When needed, the WACOR will issue a written request to the contractor to use the results from task 4 to update the IPM parameters and capabilities used in the IPM version 4.0 or newer model. Upon receiving this request, the contractor shall update requested parameters and capabilities of the Integrated Planning Model to ensure that results obtained under Task 2 are technically defensible. The WACOR will also specify in the written request the specific functional areas (e.g., installation cost, O&M cost, efficiency, applicability, and reliability) to be updated. For each functional area, the contractor shall prepare a typed issue paper of 15 pages or less which shall include the following information:

- . Description of the parameters and capabilities to be updated,
- . Identification of policy and technical issues to be resolved,
- . Sources of data for the update.

In addition, for each issue paper, the contractor shall include not more than five extra discussion topics which will be clarified by the WACOR in the written request for these issue papers.

The WACOR and CAMD technical staff will review the issue paper, provide feedback to resolve technical and policy issues, and issue written requests authorizing programming to implement the update. The contractor shall make the programming changes and perform two sets of diagnostic model runs to test the programming changes. The contractor shall provide the WACOR with outputs from the diagnostic runs for review and comment.

For budgeting purposes, the contractor shall assume that the WACOR will request updates of seven (7) functional areas in preparation for an issue paper in each of the areas, presentation of initial and final run outputs demonstrating achievement of the updated capabilities, and documentation of the updated parameters and capabilities. The delivery schedule for the issue papers, initial and final run outputs, and documentation will be specified by the WACOR in the written request.

TASK 6: Allocation Analysis for Multi-pollutants under Cap and Trade Program

Like most of the existing air pollutant emission reduction rules (e.g., Title IV, SIP Call and S-126), CAIR and CAMR rules (both final rule and rule reconsideration) also include the Cap and Trade Program elements. These rules allow States to use the federal operated Cap and Trade Program to support States in compliance with these rules. When implemented, the Federal Government will calculate and allocate the pollutants allowances for each of the existing power generating units based on the heat input data. The Agency will likely need analyses of allocations methods that may include NO_x, SO₂, Hg, or CO₂.

In the rule making and litigation processes, the contractor shall provide analytical support for the evaluation of emission allowance allocation options within cap-and-trade programs designed to control harmful air emissions from large stationary sources. In addition to the IPM model, the contractor shall also use off-line analysis tools developed in the previous contract for these technical analyses to perform this task. The contractor shall analyze the impacts of allocation methods in cap and trade programs under various national emission control scenarios related to regulating multi-pollutant emissions from the electricity power generating sector. In this type of approach, a limited number of emission allowances are made available to the regulated community, which must be surrendered by each source for emissions during the compliance period. By buying or selling allowances, sources can control the degree to which they must control their emissions. A source that finds emission controls to be particularly expensive can buy allowances, in essence, arranging to have another source take over some of its control burden.

The WACOR will issue a written request to specify the boundary conditions (i.e. pollutant(s) of interest, the allocated allowances, the current emission control condition, and legally allowed emission quantities or rates) for each of the IPM strategy runs. The contractor shall provide the economic analyses that incorporate the use of the IPM strategy model runs to estimate national, state, and source-specific costs and compliance choices, generation, emissions, and prices that occur from the allocation options specified in the written request. The contractor shall also study up to five alternative modeling methods to ascertain the expected impact of the various allocation methods being modeled. The alternative modeling method will be concentrated in the following

two study areas and will be driven by a written request from the WACOR:

The options of the allocation methods consist of combinations of characteristics relating to the timing of any changes in the allocations, the basis of these changes, and the recipients of the allocations (e.g. "changing the allocation at the beginning of every calendar year and using the average of the past five year's heat input as the basis to calculate the new allocations" vs. "changing the allocation every five years and the units keeping their allocation for that five years.")

The Contractor shall project the relative consequences of the options for the electricity market using both basic market analysis and detailed computer simulations (IPM as well as off-line analyses).

For any given combination of pollutants, geographic areas, and cap levels (the "policy case"), the contractor shall complete an analysis for the set of allocation options identified in the WACOR's written request. Upon completion of each analysis, the contractor shall deliver a technical support document that describes the policy case being considered; defines a baseline or reference case; introduces the economic analysis; lays out the options that were analyzed; discusses relevant economic issues; examines the effect of allowances on different generation sources; and presents the parsed results of IPM strategy runs to support these findings.

IV. DELIVERABLES

The contractor shall prepare and deliver electronic files in CD ROM format for all of the final versions of the documentation generated under this work assignment to the WACOR at the end of the completion of this work assignment.

TASK 1: Work Plan.

TASK 2: Complete IPM model regulatory runs estimating costs, emission reductions, sensitivity of the IPM runs, feasibility of the air emission control technologies, and reliability of the power generations, in roughly 2-6 runs per month based on a schedule (to be identified by the WACOR), to support this task. Draft reports (with supporting documentation and results) of each run in electronic file format shall be delivered to the WACOR in floppy diskette or CD-ROM format within seven (7) days after receiving the WACOR's written request. Electronic versions of these final reports in floppy diskette or CD-ROM format are due to the WACOR 14 days after receiving the WACOR's comment.

TASK 3: Draft summary for studies in the areas of "financial analyses," "potential impacts upon employment in other economic sectors," "continuing support in the implementation of the National Energy Policy," "the response to Congressional requests," and the "analysis of impacts of carbon regulations" are due three (3) weeks after the WACOR issues the written request. The contractor shall expect more than 30% of the studies under the "response to Congressional requests" are ad-hoc in nature. When the WACOR specifies "AD-HOC" in the written request,

a draft of these report(s) are due within 3 to 7 working days which the WACOR will specify in the written request. The contractor shall expect 2 revisions of these draft reports. Modified versions are due one week after the WACOR's revision comments. Final versions of these reports are due at the end of this work assignment. Final deliverables shall be submitted to the WACOR in electronic form (MS-Word 2003) and transmitted in floppy diskette or CD-ROM format.

Draft summaries for impact on EA, SBREFA, and UMRA documents are due 6 weeks after completion of the associated IPM model regulatory runs. Final documents are due 2 weeks after final comments by the WACOR. Final documents are due at the end of this work assignment. Final deliverable shall be submitted to the WACOR in electronic form (MS-Word 2003) and transmitted in floppy diskette or CD-ROM format.

Contractor shall also maintain an in-house IPM model run database as data-depot for CAMD-related IPM runs. These files should be protected inside ICF password protected ftp facility. ICF should initial and maintain monthly telephone communication with WACOR to discuss and resolve the operational problems. Depend on the security level, Contractor shall separate the CBI documentation from the regular IPM run files when authorized CAMD/PDB user can get access to general IPM run results and EPA certified person with CBI clearance can get access the CBI files. In addition, when ICF needs to remove unwanted IPM run files from database to enhance the ftp performance, EPA/CAMD related IPM run files can be removed from ICF ftp site only when ICF follows the following criteria: (1) ICF needs to inform the WACOR and get permission before proceed, (2) files shall be downloaded to two sets DVD or CD, one set shall transfer to WACOR and ICF shall safe guard the second set; (3) ICF shall keep the second set for at least three months to allow WACOR has time to check the completeness and the integrity of these files; (4) ICF then can decide to continue safe guard these DVD/CD (i.e., the second set) or destroy them after receiving the written instruction from WACOR; and (4) CBI files should be handled under the established CBI documentation transfer mechanism and procedures and directly deliver to CAMD CBI documentation handling person (e.g., under this work assignment, this person is the security officer - Gene-Hua Sun [sun.gene-hua@epa.gov, 202-343-9119]).

TASK 4: Contractor shall brief the WACOR monthly about new development in this upgrading process. An electronic copy of the upgraded model and supporting manual will be due at the end of this work assignment.

TASK 5: There are no deliverables under this task item if the WACOR doesn't issue a written request to implement the results from task 2 to IPM version 3.0, 4.0, and/or newer. When issue papers have been requested, draft issue papers are due 10 days after each of the written requests are issued by the WACOR. The contractor shall expect up to four revisions for each of these issue papers. Revisions of the issue papers are due 10 days after receipt of EPA's comment. A final issue paper is due 10 days each after receiving EPA's comments of the draft

report. IPM program changes are due within 15 days after receiving the WACOR's written request. Diagnostic model runs are due within 7 days after each IPM program changes. Outputs of IPM run results (standardized electronic reports in ".dat," ".rpt," and ".rpe" files, hard copy of system report, and up to three specific reports [the WACOR will specify this in each of the written requests based on EPA's needs for such IPM runs] developed in IPM version 3.0, 4.0 and/or newer updated work assignment). The contractor shall expect up to two sets of these diagnostic model runs for each of the program changes. Summary tables to compare the results for diagnostic model runs and its comparable mirror images (e.g. same boundary condition for base case or policy cases) are due five days after receiving EPA's comments among the IPM diagnostic run results.

Complete offline analysis and IPM analysis of up to nine (9) allocations (e.g., three allocation approaches per proposed rule) under this work assignment. Approximately 1-3 IPM runs per month may be required based on demand. A draft summary of technical support documents examining allocation options are due 3 weeks after the completion of the associated IPM allocation option runs. The contractor shall expect two revision requests from the WACOR. The revised white paper is due 1 week after receiving the WACOR's comments. Final documents of all kinds are due 2 weeks after final comments by the WACOR. Final documents due to the WACOR shall be submitted in electronic form (MS-Word 2003) and transmitted in floppy diskette or CD-ROM. format.

Copies:

EPA Contracting Officer (cover only)	1
EPA Work Assignment WACOR	1



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-3

Work Assignment

☐ Original ☒ Amendment Number: 1

Contract Number
EP-W-08-018

Contract Period
Base

Option Period Number

Title of Work Assignment
Technical Support for Clean Air Markets
Division - Regulatory Development Activities

Contractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

This amendment is issued to approve contractor's workplan and cost estimate dated March 31, 2009. There are authorized ceiling limits of \$774,000.00 and LOE at 5850; the contractor shall not exceed these amounts without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$0.00	9,000
This Action	\$774,000.00	(3,150)
Total	\$774,000.00	5,850

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09	Cost/Fee: \$1,153,510.00	LOE: 9,000
Cumulative Approved:	Cost/Fee: \$774,000.00	LOE: 5,850

Work Assignment Manager Name

GENE-HUA SUN

(Signature)

(Date)

Branch/Mail Code 6204J

Phone Number 202-343-9119

Fax Number

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Technical Support for Clean Air Markets Division - Regulatory Development Activities

Contract: EP-W-08-018, Work Assignment: 1-3, Amendment: 0001

Summary Information

Title: Technical Support for Clean Air Markets Division -
Regulatory Development Activities

Period of Performance: From: 03/11/09
To: 03/10/10

Award Date: 03/09/09

Total Funding:

WA Totals

The following item(s) have been added:

Category	POP	Amount
-----	-----	-----
Estimated Cost	Option 1	\$ (b)(4)
Fixed Fee	Option 1	

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 9000 to 5850.

United States Environmental Protection Agency
Washington, DC 20460Work Assignment Number
1-3

Work Assignment

☐ Original ☒ Amendment Number: 2Contract Number
EP-W-08-018Contract Period
Base

Option Period Number

Title of Work Assignment
Technical Support for Clean Air Markets
Division - Regulatory Development ActivitiesContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to raise the LOE from 5,850 to 7,360; and to increase the authorized ceiling amount from \$774,000.00 to \$974,000.00. The contractor is not to exceed these amounts without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$774,000.00	5,850
This Action	\$200,000.00	1,510
Total	\$974,000.00	7,360

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09	Cost/Fee: \$1,153,510.00	LOE: 9,000
Cumulative Approved: 08/20/09	Cost/Fee: \$974,000.00	LOE: 7,360

Work Assignment Manager Name

Branch/Mail Code 6204J

GENE-HUA SUN

Phone Number 202-343-9119

(Signature)

(Date)

Fax Number

Project Officer Name

Branch/Mail Code 3803R

SHERMAN E. FARVES

Phone Number 202-564-2185

(Signature)

(Date)

Fax Number 202-565-2554

Other Agency Official Name

Branch/Mail Code

Phone Number

(Signature)

(Date)

Fax Number

Contracting Official Name

Branch/Mail Code 3803R

DEBRA A. MILLER

Phone Number 202-564-1041

(Signature)

(Date)

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Technical Support for Clean Air Markets Division - Regulatory Development Activities

Contract: EP-W-08-018, Work Assignment: 1-3, Amendment: 0002

Summary Information

Title: Technical Support for Clean Air Markets Division -
Regulatory Development Activities

Period of Performance: From: 03/11/09
To: 03/10/10

Award Date: 03/09/09

Total Funding:

WA Totals

The following item(s) have been modified:

Category	POP	From	By	To
Estimated Cost	Option 1	\$(b)(4)	\$(b)(4)	\$(b)(4)
Fixed Fee	Option 1			

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 5850 to 7360.

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-3

Work Assignment

☐ Original ☒ Amendment Number: 3Contract Number
EP-W-08-018Contract Period
Base

Option Period Number

Title of Work Assignment
Technical Support for Clean Air Markets
Division - Regulatory Development ActivitiesContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to raise the Level of Effort from 7,360 hours to 9,000 hours, increase the authorized Cost/Fee ceiling from \$974,000.00 to \$1,153,510 and make other administrative changes. The contractor is not to exceed these amounts without prior authorization from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:
Previously ApprovedCost/Fee
\$974,000.00LOE
7,360

This Action

\$179,510.00

1,640

Total

\$1,153,510.00

9,000

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09

Cost/Fee: \$1,153,510.00

LOE: 9,000

Cumulative Approved: 12/10/09

Cost/Fee: \$1,153,510.00

LOE: 9,000

Work Assignment Manager Name

GENE-HUA SUN

Branch/Mail Code 6204J

Phone Number 202-343-9119

Fax Number

(Signature)

(Date)

Project Officer Name

RYAN T. DANIELS

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Technical Support for Clean Air Markets Division - Regulatory Development Activities

Contract: EP-W-08-018, Work Assignment: 1-3, Amendment: 0003

Summary Information

Title: Technical Support for Clean Air Markets Division -
Regulatory Development Activities
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/09/09
Total Funding:

Procurement Management Roles

The following item(s) have been modified:

CONTRACT SPECIALIST:

U.S. E.P.A.
Attn: SHERMAN E. FARVES
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Date Role Ended: 11/20/09

Mail Code: 3803R
Phone Number: 202-564-2185
Fax Number: 202-565-2554
E-Mail Address: farves.sherman@epa.gov

PROJECT OFFICER:

U.S. E.P.A.
Attn: SHERMAN E. FARVES
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Date Role Ended: 11/20/09

Mail Code: 3803R
Phone Number: 202-564-2185
Fax Number: 202-565-2554
E-Mail Address: farves.sherman@epa.gov

The following item(s) have been added:

CONTRACT SPECIALIST:

U.S. E.P.A.
Attn: RYAN T. DANIELS
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code:
Phone Number:
Fax Number:
E-Mail Address: daniels.ryan@epa.gov

PROJECT OFFICER:

U.S. E.P.A.
Attn: RYAN T. DANIELS
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Technical Support for Clean Air Markets Division - Regulatory Development Activities

Contract: EP-W-08-018, Work Assignment: 1-3, Amendment: 0003

Mail Code:
Phone Number:
Fax Number:
E-Mail Address: daniels.ryan@epa.gov

WA Totals

The following item(s) have been modified:

Category	POP	From	By	To
Estimated Cost	Option 1	\$(b)(4)	\$(b)(4)	\$(b)(4)
Fixed Fee	Option 1			

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 7360 to 9000.

United States Environmental Protection Agency
Washington, DC 20460Work Assignment Number
1-4

Work Assignment

☒ Original ☐ Amendment Number:Contract Number
EP-W-08-018Contract Period
Base Option Period Number 1Title of Work Assignment
Support for the Clean Air Act Advisory
Committee (CAAAC) and Subcommittees
and 2008 Clean Air Excellence Awards
Program.Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The contractor shall prepare and deliver a workplan and cost estimate in accordance with the contract.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 8)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Cost/Fee LOE

Previously Approved

This Action

Total \$0.00 2,545

Work Plan / Cost Estimate Approvals

Contractor WP Dated : Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: \$0.00 LOE: 2,545

Work Assignment Manager Name

JAMES P. CHILDERS

Branch/Mail Code 6102A

Phone Number 202-564-1082

Fax Number 202-564-1352

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Support for the Clean Air Act Advisory Committee (CAAAC) and Subcommittees and 2008 Clean Air Excellence Awards Program.

Contract: EP-W-08-018, Work Assignment: 1-4

Summary Information

Title: Support for the Clean Air Act Advisory Committee (CAAAC) and Subcommittees and 2008 Clean Air Excellence Awards Program.

Period of Performance: From: 03/11/09
To: 03/10/10

Award Date:

Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: JAMES P. CHILDERS
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6102A
Phone Number: 202-564-1082
Fax Number: 202-564-1352
E-Mail Address: childers.pat@epa.gov

Deliverable Items

SCHEDULE FOR LOCATION:

Attachments

Attachment Name

1-4

WORK ASSIGNMENT STATEMENT OF WORK

TITLE: Support for the Clean Air Act Advisory Committee (CAAAC) and Subcommittees and 2008 Clean Air Excellence Awards program

WORK ASSIGNMENT: 1-4

ESTIMATE LEVEL OF EFFORT: 2,545 Hours

BACKGROUND

EPA originally established the Clean Air Act Advisory Committee (CAAAC) in November 1990, and renewed the charter of the CAAAC seven times to maintain its function until November 15, 2006. The committee is authorized under the Federal Advisory Committee Act, 5 U.S.C., App. Section 9 (c). The purpose of the Committee is to provide independent advice and counsel to the Agency on policy and technical issues associated with the implementation of the Clean Air Act Amendments of 1990 (CAA). The Advisory Committee consists of some 50 members from the regulated and private industry, the academic community, state and local government and environmental organizations. The Committee is normally consulted three times a year on economic, environmental, technical, scientific and enforcement issues. The results of these meetings will be a written report providing advice to U.S. EPA on implementing the CAA.

Much of the work of the CAAAC is accomplished through its subcommittees. Currently there are four (4) subcommittees: 1) Permits/NSR/Toxics; 2) Economic Incentives and Regulatory Innovation; 3) Air Quality Management; 4) Mobile Sources Technical Review Subcommittee. This statement of work will provide contractor meeting support for the full committee and its subcommittees.

PURPOSE AND SCOPE OF WORK

This statement of work under this contract will provide for general conference support and other duties related to supporting the CAAAC and its four subcommittee's activities for the remainder of a twelve (12) month period from March 11, 2009 to March 10, 2010. The contractor shall prepare documents for U.S. EPA's use that present the advice and specific recommendations of the CAAAC and its appropriate subcommittees on issues related to implementing the CAA. In order to prepare these documents, the contractor shall convene up to (8) one - three day meeting of the CAAAC and its subcommittees and undertake other appropriate advisory committee support activities as described in the following tasks. The meetings will be held approximately four months apart with the exact dates and location to be determined by the Project Officer. The contractor shall provide support for this meeting as described in the tasks below.

Specific tasks to be accomplished under the proposed contract include:

TASKS

Task 1: Prepare Work Plan: The Contractor shall prepare a work plan in accordance with the terms and conditions of the contract clause B.2 "Work Assignments" and Attachment 2 "Reports of Work" section entitled: "Preparation and Submission of Work Plans."

Task 2: Monthly Progress Reports. The contractor shall prepare monthly progress reports on a task by task basis that reports on work performed, problems encountered, if any, and work anticipated during the following month.

Task 3: Meeting planning and logistical support. The contractor shall provide planning and logistical support for the CAAAC and its subcommittees meetings. Meeting planning shall include hotel site investigation and selection, solicitation of competitive hotel bids, as necessary, arrangement of meeting space and provision of all equipment and meeting supplies.

The contractor shall be responsible for coordinating all on-site logistical support during these Committee and subcommittee meetings.

Logistical support shall be provided in advance of the meetings as well as during the meetings. Such support shall include determining the most advantageous meeting room configuration, staffing registration desks, coordinating the transcription of proceedings, document distribution, coordinating audio-visual aids, and providing other support activities at the meetings as required.

Task 4: Administrative Support. The contractor shall provide administrative support as necessary to facilitate or expedite preparation for, and the conduct of, the meetings. Activities conducted under this task shall include, but are not limited to, the following:

- Preparing registration list;
- Preparing name badges and table cards;
- Handling communications with attendees in advance of meetings;
- Assembling and reproducing background or supplemental materials;
- Preparing and distributing meeting agendas;
- Developing and maintaining mailing lists;
- Documenting proceedings and preparing minutes in accordance with the Federal Advisory Committee Act requirements for full committee meeting only;
- Making local as well as long distance telephone calls to Advisory members for the purpose of giving and receiving administrative information in relation to the meetings;
- Utilizing commercial message service for the purpose of receiving and disseminating information. It is estimated that commercial message services will be required no more than five (5) times per meeting;
- Performing any administrative support activities such as, the reproduction and distribution of information and analyses prepared at the Committee and meetings, assisting CAAAC members in obtaining information and materials relevant to CAAAC discussions.

Task 5: Technical and Analytical Support for Presentation. The contractor shall provide technical support to the Committee meetings by conducting analyses and providing other technical support for the preparation of presentation, briefings, issues papers, and background and/or supplemental materials associated with the meetings and the topics addressed at the meetings. Graphics support, if needed, shall be included. There will be no more than three (3) topics for this meeting that would require contractor support. Project Officer technical direction is required for analytical and/or technical support.

Task 6: Prepare draft and final documents summarizing CAAAC recommendations, and technical recommendations to the EPA. Draft documents, including comprehensive minutes of all full committee meetings, shall be prepared and submitted to the Project Officer for review within three (3) weeks following the meetings. Draft documents shall be reviewed and approved by the Project Officer prior to return to contractor. Project Officer review comments will be provided two (2) weeks following receipt of draft documents. Final documents shall be submitted one (1) week following receipt of agency comments.

Task 7: Support to the Clean Air Excellence Awards Program. The contractor shall provide technical, analytical and logistical support to the Project Officer in the management of the Clean Air Excellence Awards Program, an annual OAR awards program originally recommended to EPA-OAR by the Advisory Committee. Draft and final materials, including but not limited to the following: outreach information announcing the year 2009 program, award proposal packets, scoring sheets for judging proposals, summary listing of proposals and their scoring by OAR and CAAAC reviewers, award ceremony program, summary of winners' projects, award certificates, and other appropriate documents shall be prepared in support of both the 2009 and 2010 annual awards program. The contractor will work in close coordination with the Project Officer to provide support to CAAAC members, OAR staff and senior OAR management in the successful implementation of this task item.

DELIVERABLES

1. Monthly progress reports will be provided to the Project Officer.
2. Planning and logistical support under Task 2 will be provided to the agency in advance of the CAAAC and subcommittee(s) meetings. The Project Officer will notify the contractor of meeting date requirements in order that advance logistical support can be provided under the terms of the Statement of Work.
3. Administrative support under Task 3 will be provided to the agency (CAAAC and its subcommittees) approximately 2 to 3 days prior to each meeting under the direction of the Project Officer. Support during the meetings will be provided in a manner that best facilitates the effective conduct of the meetings.
4. Technical and analytical support (CAAAC and its subcommittees) for use at its meetings under the direction of the Project Officer and in consultation with appropriate senior EPA managers.
5. Summary Documents - As described in Task 5, the contractor shall submit a draft summary document, including comprehensive minutes of all full committee meetings, and final summary document following each full committee meeting of the CAAAC. Draft documents are due within three weeks following the conclusion of each meeting unless otherwise notified by the Project Officer. Final documents are due within two weeks following the receipt of EPA review comments. EPA comments will be provided no later than two weeks from receipt of the draft documents.
6. Documents and other information described in Task 7 shall be prepared at the direction of the Project Officer for his review and approval. Due dates will be determined by the Project Officer, based upon an approved schedule for the implementation of the year 2009 awards program.

United States Environmental Protection Agency
Washington, DC 20460Work Assignment Number
1-4

Work Assignment

☐ Original ☒ Amendment Number: 1Contract Number
EP-W-08-018Contract Period
Base Option Period Number 1Title of Work Assignment
Support for the Clean Air Act Advisory
Committee (CAAAC) and Subcommittees
and 2008 Clean Air Excellence Awards
Program.Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan ApprovalPeriods of Performance
From: 03/11/09 To: 03/10/10

Comments:

The purpose of this amendment is to approve the contractor's workplan and cost estimate. There is an authorized ceiling limit of \$60,000.00; the contractor shall not exceed this amount without prior approval from the Contracting Officer. Note: The contractor's total estimated amount is corrected from \$466,139.00 to be \$466,140.00.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 6)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$0.00	2,545
This Action	\$466,140.00	320
Total	\$466,140.00	2,865

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09 Cost/Fee: \$466,140.00 LOE: 2,865

Cumulative Approved: 04/06/09 Cost/Fee: \$466,140.00 LOE: 2,865

Work Assignment Manager Name

JAMES P. CHILDERS

(Signature)

(Date)

Branch/Mail Code 6102A

Phone Number 202-564-1082

Fax Number 202-564-1352

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Support for the Clean Air Act Advisory Committee (CAAAC) and Subcommittees and 2008 Clean Air Excellence Awards Program.

Contract: EP-W-08-018, Work Assignment: 1-4, Amendment: 0001

Summary Information

Title: Support for the Clean Air Act Advisory Committee (CAAAC) and Subcommittees and 2008 Clean Air Excellence Awards Program.

Period of Performance: From: 03/11/09
To: 03/10/10

Award Date: 03/06/09

Total Funding:

Attachments

The following item(s) have been added:

Attachment Name

Notice Regarding Meals and Refreshments

WA Totals

The following item(s) have been added:

Category	POP	Amount
Estimated Cost	Option 1	\$(b)(4)
Fixed Fee	Option 1	

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 2545 to 2865.

Notice Regarding Meals and Refreshments

Contract: EP-W-08-018, Work Assignment: 1-4, Amendment: 0001

Notice regarding meals and light refreshments:

Appropriate funds may only be used to purchase meals and light refreshments for FACA participants who are federal employees in travel status and non-federal individual on invitational travel order authorized by Federal Code 5 USC 5703 "An employee serving intermittently in the Government service as an expert or consultant and paid on a daily when-actually-employed basis, or serving without pay or at \$1 a year, may be allowed travel or transportation expenses, under this subchapter, while away from his home or regular place of business and at the place of employment or service."



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-4

Work Assignment

☐ Original ☒ Amendment Number: 2

Contract Number
EP-W-08-018

Contract Period
Base Option Period Number 1

Title of Work Assignment
Support for the Clean Air Act Advisory
Committee (CAAAC) and Subcommittees
and 2008 Clean Air Excellence Awards
Program.

Contractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to raise the authorized ceiling limit from \$60,000.00 to \$457,000.00; the contractor shall not exceed this amount without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$466,140.00	2,865
This Action	\$0.00	0
Total	\$466,140.00	2,865

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09	Cost/Fee: \$466,140.00	LOE: 2,865
Cumulative Approved: 04/06/09	Cost/Fee: \$466,140.00	LOE: 2,865

Work Assignment Manager Name

JAMES P. CHILDERS

Branch/Mail Code 6102A

Phone Number 202-564-1082

Fax Number 202-564-1352

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Support for the Clean Air Act Advisory Committee (CAAAC) and Subcommittees and 2008 Clean Air Excellence Awards Program.

Contract: EP-W-08-018, Work Assignment: 1-4, Amendment: 0002

Summary Information

Title: Support for the Clean Air Act Advisory Committee (CAAAC) and Subcommittees and 2008 Clean Air Excellence Awards Program.

Period of Performance: From: 03/11/09
To: 03/10/10

Award Date: 03/06/09

Total Funding:

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-5

Work Assignment

☒ Original ☐ Amendment Number:Contract Number
EP-W-08-018

Contract Period

Base

Option Period Number 11

Title of Work Assignment
Health, Welfare, and Economic
Assessments of Reducing Air Pollution

Contractor

CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The contractor shall prepare and deliver a workplan and cost estimate in accordance with the contract.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 9)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee

LOE

Previously Approved

This Action

Total

\$0.00

480

Work Plan / Cost Estimate Approvals

Contractor WP Dated :

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee: \$0.00

LOE: 480

Work Assignment Manager Name

Branch/Mail Code 6204J

DAVID P. RISLEY

Phone Number 202-343-9177

(Signature)

(Date)

Fax Number

Project Officer Name

Branch/Mail Code 3803R

SHERMAN E. FARVES

Phone Number 202-564-2185

(Signature)

(Date)

Fax Number 202-565-2554

Other Agency Official Name

Branch/Mail Code

Phone Number

(Signature)

(Date)

Fax Number

Contracting Official Name

Branch/Mail Code 3803R

DEBRA A. MILLER

Phone Number 202-564-1041

(Signature)

(Date)

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Health, Welfare, and Economic Assessments of Reducing Air Pollution

Contract: EP-W-08-018, Work Assignment: 1-5

Summary Information

Title: Health, Welfare, and Economic Assessments of
Reducing Air Pollution
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date:
Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: DAVID P. RISLEY
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
Phone Number: 202-343-9177
Fax Number:
E-Mail Address: risley.david@epa.gov

Attachments

Attachment Name

1-5

WORK ASSIGNMENT STATEMENT OF WORK

Title: Health, Welfare, and Economic Assessments of Reducing Air Pollution

Work Assignment #: 1-5

Estimated Level of Effort: 480 Hours

I. BACKGROUND AND PURPOSE

The Assessment & Communications Branch (ACB) of the Clean Air Markets Division (CAMD) of the Office of Atmospheric Programs (OAP) is responsible for assessing the impact of emission reductions in terms of their benefits to human health, visibility, ecology, etc. The analyses to be performed under this Work Assignment are mandated by Sections 812 and 901 of the Clean Air Act Amendments (CAAA) of 1990. The analyses also serve to evaluate the effectiveness of CAMD's programs in reducing ambient concentrations of PM (including but not limited to PM_{2.5}, PM₁₀, etc.) compatible with the Office of Management and Budget's (OMB's) Program Assessment Rating Tool (PART).

This work assignment is intended to continue work begun under work plan 0-5, "Health, Welfare, and Economic Assessments of Reducing Air Pollution." The tasks and deliverables included below are consistent with work plan 0-5.

II. CONTRACT LEVEL STATEMENT OF WORK REFERENCE

The tasks to be performed under this work assignment are consistent with the areas of analyses authorized in sections I. A; III. A. (c), (d), (e), & (p), as well as III. F (h) & (i) of the contracts Statement of Work:

III. STATEMENT OF WORK TASKS

TASK 1: Prepare Work Plan

The Contractor will prepare a Work Plan in accordance with the terms and conditions of contract clauses B.2 entitled Work Assignments and B.3 entitled Preparation and Submission of Work Plans.

TASK 2: Calculate the Estimated Human Health Benefits and Valuation of Current or Potential Air Quality Scenarios and Programs

The contractor will analyze the human health benefits and valuation of air quality scenarios or programs that are relevant to CAMD's mission. These assessments may include reassessments of existing programs administered by CAMD (including Title IV, the NO_x SIP Call, the Clean Air Interstate Rule, and the Clean Air Visibility Rule) due to changes in modeling methodologies (such as emissions, air quality, and epidemiology). The assessments may also be prospective regarding potential air quality scenarios. The assessments may focus on domestic or international health effects of air pollution. The assessments will rely primarily on modeling of emissions, air quality, and health functions. This task is related to work that was completed by the contractor under contract 68-W-03-028, work assignment 3-1. The contractor shall prepare short (approximately 5 to 10 page) memos or presentations for EPA outlining the methods used and the results of these analyses. Additional products shall be developed in consultation with the WAM. This task shall be performed in consultation with the WAM.

TASK 3: Develop the Capacity to Monitor Real World Human Health Benefits and Valuation of

Changes in Air Quality

The contractor will develop and assist in the application of a system to monitor real world human health benefits of changing air quality. Identification of sources of emissions, air quality, and epidemiological data is essential to this task as well as developing and applying a method for their use. Changes in air quality that are assessed should be relevant to CAMD's mission (in particular, power plant emissions). The development portion of this task is a continuation of work begun under contract 68-W-03-028, work assignment 3-1. The contractor shall prepare a short (approximately 5 to 10 page) memo or presentation for EPA outlining the data sources and methods used for methodology development. Additional products shall be developed in consultation with the WAM. This task shall be performed in consultation with the WAM.

TASK 4: Calculate the Estimated Welfare Benefits and Valuation of Current or Potential Air Quality Scenarios and Programs

The contractor will analyze the welfare benefits and valuation of air quality scenarios or programs that are relevant to CAMD's mission. Welfare endpoints may include the impacts of air quality to ecological systems, visibility, recreational activities, agriculture, commerce, and industry. The primary goal of this task is to expand the ability of CAMD to assess and value welfare endpoints. The assessments should focus on existing programs administered by CAMD but should also be applicable to prospective air quality and policy scenarios. The contractor shall prepare a short (approximately 5 to 10 page) memo or presentation for EPA describing the results. Additional products shall be developed in consultation with the WAM. This task shall be performed in consultation with the WAM.

TASK 5: Calculate the Combined Health and Welfare Benefits of CAMD Programs

Assessments of CAMD programs (such as Title IV, the NOx Budget Trading Program, and the Clean Air Interstate Rule) generally evaluate each of these programs independently. The contractor shall develop and apply a method to evaluate combinations of these programs so that the benefit of overlapping programs can be estimated (such as the work begun under contract 68-W-03-028, work assignment 3-1 to assess the combined benefits of Title IV and CAIR). The contractor shall prepare a short (approximately 5 to 10 page) memo or presentation for EPA detailing the results of the analysis. Additional products shall be developed in consultation with the WAM. This task shall be performed in consultation with the WAM.

TASK 6: Develop and Apply a Method of Measuring Equity of CAMD Programs The contractor shall continue work begun under contract 68-W-03-028, work assignment 3-1 to develop multiple methodologies to evaluate the effectiveness of CAMD Programs, beginning with Title IV, with respect to Environmental Justice. The contractor shall prepare a memo (approximately 10 pages) for EPA outlining the proposed methodologies and the justifications, advantages, and limitations of each method. Additional products shall be developed in consultation with the WAM. This task shall be performed in consultation with the WAM.

TASK 7: Develop and Apply a Method of Measuring Economic Performance

The contractor shall develop and apply methods to assess the economic performance of CAMD programs. Several methods of economic analyses should be conducted and presented to the WAM for review. Analyses may focus on the emissions market or the economics of industry compliance with CAMD programs. The contractor shall prepare a memo (approximately 5 to 10 pages) or presentation for EPA detailing the methods developed for the economic assessment. Additional products shall be developed in consultation with the WAM. This task shall be performed in consultation with the WAM.

TASK 8: Review of Assessments

The contractor shall review work developed by CAMD staff and third parties including the academic community and non-governmental organizations that related to CAMD programs. The contractor shall rely on

their expertise in the economics and benefits of CAMD programs to provide feedback on the appropriateness and accuracy of CAMD program evaluations. The contractor shall prepare short memos (approximately 2-3 pages) or presentations for EPA detailing the review of the program assessments. This task shall be performed in consultation with the WAM.

TASK 9: Surveys and Focus Group Sessions

The Contractor shall design and conduct surveys and/or focus group sessions as needed to provide additional data or methods to evaluate the impacts of air pollution on public perceptions and/or values, both non-monetary and/or monetary, that could be used to support various risk and/or benefits analyses as identified by the EPA. In planning a survey or focus group session, the Contractor shall consider characteristics of respondents that are required to obtain sufficient data for analysis, such as location of respondents, demographic and ecologic parameters of respondents, economic variables, and air pollution parameters. The survey instrument or focus group discussion issues shall be reviewed by the EPA COR and revised based on EPA COR comments. External reviewers of the survey instrument or focus group discussion issues may also be required. Upon approval of the survey instrument or focus group issues, the Contractor shall administer the survey or focus group sessions according to the approved plan. The Contractor shall record all responses, itemize responses in a database, and analyze the results of the survey or focus group sessions through statistical procedures or by other approved methods. The Contractor shall submit to the EPA COR a report that documents the plan and methodology, the survey or focus group instrument, the data collected, and results of the analysis.

The Contractor shall determine and summarize the non-monetary and/or monetary visibility benefits that are expected to occur as a result of reductions in particulate matter-induced visibility impairment resulting from implementation of current and/or future air quality regulations. This analysis will include predicted/modeled visibility changes in urban/suburban visibility levels provided by EPA based on estimates from air quality modeling results. The Contractor will prepare a report for the EPA COR outlining the survey and assessment methods used and the results. This analysis will be done in consultation with the EPA COR

V. DELIVERABLES

TASK 1: Prepare Work Plan

- a. Work Plan - in accordance with clauses B.2 and B.3 of the contract.
- b. Monthly Progress Reports - in accordance with the terms and conditions of the Contract.

TASK 2: Calculate the Estimated Human Health Benefits and Valuation of Current or Potential Air Quality Scenarios and Programs

The contractor shall prepare short (approximately 5 to 10 page) memos or presentations for EPA outlining the methods used and the results of these analyses. Additional products shall be developed in consultation with the WAM.

TASK 3: Develop the Capacity to Monitor Real World Human Health Benefits and Valuation of Changes in Air Quality

The contractor shall prepare a short (approximately 5 to 10 page) memo or presentation for EPA outlining the data sources and methods used for methodology development. Additional products shall be developed in consultation with the WAM.

TASK 4: Calculate the Estimated Welfare Benefits and Valuation of Current or Potential Air Quality Scenarios and Programs

The contractor shall prepare a short (approximately 5 to 10 page) memo or presentation for EPA describing the

results. Additional products shall be developed in consultation with the WAM.

TASK 5: Calculate the Combined Health and Welfare Benefits of CAMD Programs

The contractor shall prepare a short (approximately 5 to 10 page) memo or presentation for EPA detailing the results of the analysis. Additional products shall be developed in consultation with the WAM.

TASK 6: Develop and Apply a Method of Measuring Equity of CAMD Programs The contractor shall prepare a memo (approximately 10 pages) for EPA outlining the proposed methodologies and the justifications, advantages, and limitations of each method. Additional products shall be developed in consultation with the WAM.

TASK 7: Develop and Apply a Method of Measuring Economic Performance

The contractor shall prepare a memo (approximately 5 to 10 pages) or presentation for EPA detailing the methods developed for the economic assessment. Additional products shall be developed in consultation with the WAM.

TASK 8: Review of Assessments

The contractor shall prepare short memos (approximately 2-3 pages) or presentations for EPA detailing the review of the program assessments.

TASK 9: Surveys and Focus Group Sessions

The table below indicates the desired deliverables and corresponding delivery schedule for task 9:

Deliverables	Schedules
Draft survey instrument design	To be determined
Final Survey design that takes into account EPA COR and/or peer review comments	To be determined
Report describing survey plan/method, survey data and analyses results	To be determined
Draft benefits assessment methodology	To be determined
Benefits assessment report describing monetary and monetary visibility benefits assessment results	To be determined

Distribution of Deliverables:

<u>Addressee</u>	<u>Copies</u>
EPA Contracting Officer	1
EPA Work Assignment Manager (COR)	1

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-5

Work Assignment

☐ Original ☒ Amendment Number: 1Contract Number
EP-W-08-018Contract Period
Base

Option Period Number

Title of Work Assignment
Health, Welfare, and Economic
Assessments of Reducing Air PollutionContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to approve the contractor's workplan and cost estimate (dated March 31, 2009).

NOTE: Task 9 of this work assignment's Statement of Work is hereby deleted in its entirety.☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Cost/Fee LOE
Previously Approved \$0.00 480

This Action \$64,626.00 0

Total \$64,626.00 480

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09 Cost/Fee: \$64,626.00 LOE: 480

Cumulative Approved: 05/12/09 Cost/Fee: \$64,626.00 LOE: 480

Work Assignment Manager Name

MICHAEL L. COHEN

Branch/Mail Code 6204J

Phone Number 202-343-9497

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Health, Welfare, and Economic Assessments of Reducing Air Pollution

Contract: EP-W-08-018, Work Assignment: 1-5, Amendment: 0001

Summary Information

Title: Health, Welfare, and Economic Assessments of
Reducing Air Pollution
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/11/09
Total Funding:

Procurement Management Roles

The following item(s) have been modified:

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: MICHAEL L. COHEN
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
Phone Number: 202-343-9497
Fax Number:
E-Mail Address: cohen.michael@epa.gov

WA Totals

The following item(s) have been added:

Category	POP	Amount
Estimated Cost	Option 1	\$ (b)(4)
Fixed Fee	Option 1	



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number
1-5

Work Assignment

☐ Original ☒ Amendment Number: 2

Contract Number
EP-W-08-018

Contract Period
Base Option Period Number

Title of Work Assignment
Health, Welfare, and Economic
Assessments of Reducing Air Pollution

Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance
From: 03/11/09 To: 03/10/10

Comments:

The purpose of this amendment is to correctly revise the contractor's cost and fixed-fee (see page 2).

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$64,626.00	480
This Action	\$0.00	0
Total	\$64,626.00	480

Work Plan / Cost Estimate Approvals

Contractor WP Dated:	Cost/Fee:	LOE:
Cumulative Approved:	Cost/Fee: \$64,626.00	LOE: 480

Work Assignment Manager Name

MICHAEL L. COHEN

(Signature)

(Date)

Branch/Mail Code 6204J

Phone Number 202-343-9497

Fax Number

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Health, Welfare, and Economic Assessments of Reducing Air Pollution

Contract: EP-W-08-018, Work Assignment: 1-5, Amendment: 0002

Summary Information

Title: Health, Welfare, and Economic Assessments of
Reducing Air Pollution
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/11/09
Total Funding:

WA Totals

The following item(s) have been modified:

Category	POP	From	By	To
Estimated Cost	Option 1	(b)(4)	(b)(4)	(b)(4)
Fixed Fee	Option 1			

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-5

Work Assignment

☐ Original ☒ Amendment Number: 3Contract Number
EP-W-08-018Contract Period
Base

Option Period Number

Title of Work Assignment
Health, Welfare, and Economic
Assessments of Reducing Air PollutionContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The purpose of this amendment is to change the designated Work Assignment Manager (WAM) from Michael Cohen to David Risely.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Cost/Fee LOE
Previously Approved \$64,626.00 480

This Action \$0.00 0

Total \$64,626.00 480

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: \$64,626.00 LOE: 480

Work Assignment Manager Name

DAVID P. RISLEY

Branch/Mail Code 6204J

Phone Number 202-343-9177

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Health, Welfare, and Economic Assessments of Reducing Air Pollution

Contract: EP-W-08-018, Work Assignment: 1-5, Amendment: 0003

Summary Information

Title: Health, Welfare, and Economic Assessments of
Reducing Air Pollution

Period of Performance: From: 03/11/09
To: 03/10/10

Award Date: 03/11/09

Total Funding:

Procurement Management Roles

The following item(s) have been modified:

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: DAVID P. RISLEY
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 6204J
Phone Number: 202-343-9177
Fax Number:
E-Mail Address: risley.david@epa.gov

United States Environmental Protection Agency
Washington, DC 20460Work Assignment Number
1-6

Work Assignment

☒ Original ☐ Amendment Number:Contract Number
EP-W-08-018Contract Period
Base Option Period Number 1Title of Work Assignment
Atmospheric Deposition Modeling Support
for TMDLs and Watershed Analyses.Contractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

The contractor shall prepare and deliver a workplan and cost estimate in accordance with the contract.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Cost/Fee LOE
Previously Approved

This Action

Total \$0.00 440

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee: LOE:
Cumulative Approved: Cost/Fee: \$0.00 LOE: 440

Work Assignment Manager Name

RUTH A. CHEMERYS

(Signature)

(Date)

Branch/Mail Code 4503-T

Phone Number 202-566-1216

Fax Number

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Atomospheric Deposition Modeling Support for TMDLs and Watershed Analyses.

Contract: EP-W-08-018, Work Assignment: 1-6

Summary Information

Title: Atomospheric Deposition Modeling Support for TMDLs
and Watershed Analyses.
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date:
Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: RUTH A. CHEMERYS
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 4503-T
Phone Number: 202-566-1216
Fax Number:
E-Mail Address: chemerys.ruth@epa.gov

Deliverable Items

SCHEDULE FOR LOCATION:

Attachments

Attachment Name

1-6

STATEMENT OF WORK**Work Assignment#:** 1-6**Background and Purpose**

Under previous work assignments (ICF #68-W-03-028, WA 4-30, and ICF # ICF EP-W-08-018, WA 0-6), the EPA Office of Water conducted atmospheric deposition modeling for the pollutant mercury. The modeling was conducted for EPA by ICF with the purpose of providing States and EPA Regions with data needed to support Total Maximum Daily Load (TMDL) and related watershed analyses.

Over 9,000 water-bodies are listed by states as impaired by mercury, and states must develop TMDLs for impaired waters. TMDLs identify the pollutant loadings to a water-body, and determine the pollutant loads reductions needed to meet water quality standards. TMDLs account for pollutants loadings from both water point sources and non-point sources, including pollutants from atmospheric sources. In many waterbodies, atmospheric deposition is the predominant source of mercury.

The mercury deposition modeling conducted under the previous work assignment (ICF #68-W-03-028, WA 4-30) used the Regional Modeling System for Aerosols and Deposition (REMSAD) and the Community Multi-scale Air Quality (CMAQ) model. The modeling is complete, and a draft report summarizing the model results was prepared under these work assignments, including tables and graphics summarizing model results for each state. Additional model runs were also conducted under WA 0-6 using selected updated source and emissions information provided by selected states. EPA has distributed the model results and report to the States and Regions. The purpose of this work assignment is to: 1) assist EPA in answering technical questions from States and other stakeholders about the modeling and report, and conducting limited analyses to assist in explaining the model results; and 2) conduct additional modeling and sensitivity analyses regarding REMSAD and CMAQ model results in order to determine the reasons for certain differences between REMSAD and CMAQ results.

Task Descriptions

The contractor shall conduct the following tasks:

Task 1: Prepare Work Plan

The Contractor shall prepare a Work Plan in accordance with the terms and conditions of the contract sections entitled "Preparation and Submission of Work Plans" and the "Work Assignment Clause."

Deliverables and schedule: Contractors' workplan within 20 calendar days of receipt of work assignment.

Task 2: Modeling and Sensitivity Analyses

Previous modeling using the REMSAD and CMAQ showed some differences in mercury deposition results predicted by the models. In particular, higher dry deposition was predicted by CMAQ in certain areas of the country. Under this task, the contractor shall conduct analyses to determine the reasons for such differences in the deposition results between the models. Some of the potential reasons to be explored include the degree of vertical mixing; whether the vertical mixing may be due to high planetary boundary heights; the results of the values used for the vertical turbulent exchange coefficients (K_z); or some other problem. Specific analyses may include but are not limited to the following: 1) Conduct analyses of the planetary boundary height to determine whether there are very high values, as well as whether the height is consistent with the values of the turbulent exchange coefficient (K_z) 2) Examine how the planetary boundary heights and K_z values are calculated and used in CMAQ; and 3) Conduct tracer runs to determine how mass becomes distributed through the vertical layers in the model, in order to factor out chemical and deposition effects.

Deliverables and schedule: The contractor shall provide a memo to the COR summarizing the results of such analyses within 3 months of the start of the work assignment.

Task 3: Assist in Responding to Questions from EPA Regions and States

Participate with the COR and other EPA technical staff on conference calls with Regions, State and other stakeholders to answer questions about modeling results. Conduct a limited number of followup analyses regarding model results based on questions from Regions, States and stakeholders. For example, stakeholders in a state have questioned whether the REMSAD results for that state may be too high, and the contractor may assist in compiling source and emissions data used in the modeling for a particular state or region. The contractor may also aggregate or breakdown the model results for a particular state by different source categories and/or geographic areas, or provide alternative graphic displays of model results for a particular state or geographic area.

Deliverables and schedule: Up to 10 conference calls as scheduled by the COR, and up to 10 analyses and/or displays of model results for selected states or geographic areas (e.g., about one per Region). Dates for the calls and analyses will be determined by the COR based on each Regions and/or States' availability and needs. Conference calls and analyses shall be completed within 9 months of start of work assignment.

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-6

Work Assignment☐ Original ☒ Amendment Number: 1Contract Number
EP-W-08-018Contract Period
Base

Option Period Number 1

Title of Work Assignment
**Atmospheric Deposition Modeling Support
for TMDLs and Watershed Analyses.**Contractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☒ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 03/10/10

Comments:

This amendment is issued to approve the contractor's workplan and cost estimate. There is a ceiling limit of \$65,000.00; the contractor shall not exceed this limit without prior approval from the Contracting Officer.

☐ Superfund**Accounting and Appropriations Data**☒ Non-Superfund

Line	DC (Max 8)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$0.00	440
This Action	\$65,161.00	0
Total	\$65,161.00	440

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/30/09	Cost/Fee: \$65,161.00	LOE: 440
Cumulative Approved: 04/01/09	Cost/Fee: \$65,161.00	LOE: 440

Work Assignment Manager Name

RUTH A. CHEMERYS

Branch/Mail Code 4503-T

Phone Number 202-566-1216

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Atomospheric Deposition Modeling Support for TMDLs and Watershed Analyses.

Contract: EP-W-08-018, Work Assignment: 1-6, Amendment: 0001

Summary Information

Title: Atomospheric Deposition Modeling Support for TMDLs
and Watershed Analyses.
Period of Performance: From: 03/11/09
To: 03/10/10
Award Date: 03/09/09
Total Funding:

WA Totals

The following item(s) have been added:

Category	POP	Amount
-----	-----	-----
Estimated Cost	Option 1	\$ (b)(4)
Fixed Fee	Option 1	



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number
1-7

Work Assignment

☒ Original ☐ Amendment Number:

Contract Number
EP-W-08-018

Contract Period
Base Option Period Number

Title of Work Assignment
Support for Development of Alaska Climate
Change Strategy

Contractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 12/31/09

Comments:

The contractor shall prepare and deliver a workplan and cost estimate in accordance with the contract.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Cost/Fee LOE
Previously Approved

This Action

Total \$0.00 635

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: \$0.00 LOE: 635

Work Assignment Manager Name

MICHAEL J. LOUGHRAN

Branch/Mail Code 8101R

Phone Number 202-564-6686

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-0966

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Support for Development of Alaska Climate Change Strategy

Contract: EP-W-08-018, Work Assignment: 1-7

Summary Information

Title: Support for Development of Alaska Climate Change Strategy
Period of Performance: From: 03/11/09
To: 12/31/09
Award Date:
Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: MICHAEL J. LOUGHRAN
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 8101R
Phone Number: 202-564-6686
Fax Number:
E-Mail Address: loughran.michael@epa.gov

Deliverable Items

SCHEDULE FOR LOCATION:

Attachments

Attachment Name

(Revised SOW) 1-7

**Work Assignment
Statement of Work**

Title: Support for Development of Alaska Climate Change Strategy

Work Assignment: 1-7

Level of Effort: 635

Background

EPA's Global Change Research Program within the Office of Research and Development is an assessment-oriented program with primary emphasis on evaluating the potential consequences of global change (particularly climate change and climate variability) on air quality, water quality, ecosystems, human health, economic activity, and social well-being in the United States. This includes improving the scientific basis for evaluating effects of climate change in the context of other stressors, and evaluating the risks and opportunities presented by climate change. The Program uses the results of these studies to work in partnership with State, local, and regional partners to investigate and identify adaptation options to improve society's ability to effectively respond to the risks and opportunities presented by global change. The Program works in partnership with States to provide scientific results that inform the development of their own Climate Change Strategies. The Program also conducts research to support future rule making on the mitigation of greenhouse gas (GHG) emissions.

This work assignment is intended to continue to provide support (initiated in the base period of the contract) a partnership with the State of Alaska to develop its Climate Change Strategy, which will include a component focused on adaptation to climate change and a component focused on the mitigation of GHG emissions.

On September 14, 2007, Alaska Governor Palin signed Administrative Order 238, creating the Climate Change Sub-Cabinet. The Sub-Cabinet advises the Office of the Governor on the preparation and implementation of an Alaska Climate Change Strategy. The Administrative Order acknowledged that:

"Scientific evidence shows many areas of Alaska are experiencing a warming trend. Many experts predict that Alaska, along with our northern latitude neighbors, will continue to warm at a faster pace than any other state, and the warming will continue for decades. Climate change is not just an environmental issue. It is also a social, cultural, and economic issue important to all Alaskans. As a result of this warming, coastal erosion, thawing permafrost, retreating sea ice, record forest fires, and other changes are affecting, and will continue to affect, the lifestyles and livelihoods of Alaskans. Alaska needs a strategy to identify and mitigate potential impacts of climate change and to guide its efforts in evaluating and addressing known or suspected causes of climate change. Alaska's climate change strategy must be built on sound science and the best available facts and must recognize Alaska's interest in economic growth and the development of its resources."

The purpose of the Climate Change Sub-Cabinet is to advise the Office of the Governor on the preparation and implementation of an Alaska Climate Change Strategy. This Strategy will include building the state's knowledge of the actual and foreseeable effects of climate warming in Alaska, developing appropriate measures and policies to prepare communities in Alaska for the anticipated impacts from climate change, and providing guidance regarding Alaska's participation in regional and national efforts addressing the causes and effects of climate change.

(Revised SOW) 1-7

Contract: EP-W-08-018, Work Assignment: 1-7

The Alaska Department of Environmental Conservation (ADEC) is responsible for organizing and implementing the stakeholder-oriented process to develop the Alaska Climate Change Strategy. This work assignment is intended to support that process, ultimately resulting in delivery of a draft Climate Change Strategy document to Governor Palin's Sub-Cabinet on Climate Change in the summer of 2009. Support will be provided to develop both the mitigation and adaptation components of the Climate Change Strategy.

The EPA Office of Research and Development requests preparation of a work plan that will include a detailed technical and staffing plan with a cost estimate that aims to meet the requirements of the three tasks outlined in the following Statement of Work. The period of performance for the three tasks ends on December 31, 2009.

Task 0: Prepare Work Plan

The contractor shall prepare a work plan in accordance with the terms and conditions of the contract clause B.2 "Work Assignments" and Attachment 2 "Reports of Work" section entitled: "Preparation and Submission of Work Plans."

Task 1: Support for Technical Workgroup Process

The Alaska Department of Environmental Conservation's efforts are organized into two broad themes. "Adaptation" includes those measures that can be taken to respond to the effects of climate change. "Mitigation" refers to measures to reduce Alaska's greenhouse gas emissions and to address other sources and causes of climate change. An Adaptation Advisory Group oversees the development of the adaptation section of the Alaska Climate Change Strategy, and a Mitigation Advisory Group oversees the development of the mitigation section of the Alaska Climate Change Strategy.

The efforts of the Adaptation Advisory Group and the Mitigation Advisory Group are supported by the efforts of Technical Work Groups (TWGs). The members of each TWG have been identified by the Climate Change Sub-Cabinet. Consistent with the stakeholder-orientation of the entire strategy-development process, the members are all stakeholders from various sectors and communities in Alaska.

The contractor shall continue to facilitate the meetings of the four TWGs focused on adaptation issues, and for one of the TWGs (Oil and Gas) focused on mitigation issues. Specifically, the contractor shall facilitate the meetings of the four TWGs supporting the Adaptation Advisory Group. The four adaptation TWGs focus on how to address present and future impacts on:

1. Public Infrastructure
2. Health and Culture
3. Natural Systems
4. Economic Activities

The contractor shall also facilitate the "Oil and Gas" TWG that supports the Mitigation Advisory Group. This mitigation TWG will examine ways in which greenhouse gas emissions can be reduced through conservation, efficiency and technological advances.

Specific activities required as part of meeting facilitation:

Between March 10 and May 31, 2009, the contractor shall continue to provide overall support to the TWGs efforts in meeting support, maintaining web site and maintaining close coordination with ADEC. The contractor will support the TWGs' main objective through this time period of coming to closure on a set of

(Revised SOW) 1-7

Contract: EP-W-08-018, Work Assignment: 1-7

complete and refined set of options from each TWG. The options developed will be documented and prepared for delivery to the Advisory groups in April with further refinements in May. Facilities for all meetings shall be provided by the Alaska Department of Environmental Conservation, so the contractor shall not incur any expenses associated with the facilities.

The contractor will provide support to the Oil & Gas TWG with estimated emissions reductions and approximate costs (quantification) as part of this process. They will require a number of meetings with the TWG developing spreadsheets and using readily available data in the quantification.

The facilitators shall record notes that summarize the discussions at each meeting. The contractor shall then maintain a website and post summary notes from each meeting on the website. The contractor shall also post documents required at the TWG meeting on the website in advance of all TWG meetings.

The contractor will continue to coordinate closely with the ADEC Project Coordinator and the ADEC Commissioner throughout this process to ensure that the meetings are run effectively and adhere to the stakeholder-orientation of the strategy-development process.

All meetings shall be announced in advance on the website and open to the public.

Deliverable:

A draft written meeting summary for each conference call and in person meeting will be made electronically available to ADEC and TWG members for review and comment within 5 working days after each meeting. TWG/ADEC revisions will be incorporated into the draft and a final meeting summary will be posted on web site within 10 working days after meeting. Summary documents should reflect any recommendations/conclusions reached during the meeting. ADEC staff will decide and communicate the precise format of the final options being developed by each TWG for Advisory group review.

Task 2: Support for Advisory Group Process and Final Report

The Alaska Department of Environmental Conservation (ADEC) expects there to be two more meetings of the Adaptation Advisory Group (AAG) between March 10, and May 31, 2009. The AAG will assemble information from the Technical Work Groups in preparation for delivery of a final report of options and recommendations to the Sub-Cabinet. The contractor will help organize the meetings and ensure that key AAG members are able to attend and participate.

The contractor shall ensure that one of its senior project managers is present at all AAG meetings to help facilitate the discussions. The contractor shall also ensure that the TWG facilitators provide meeting summary reports to the Advisory Groups on the conclusions and recommendations from their respective TWGs.

The contractor shall post summary notes from each AAG meeting on the website. The contractor shall also post documents required at the AAG meeting on the website in advance of all meetings.

The contractor will coordinate closely with the ADEC Project Coordinator and the ADEC Commissioner throughout this process to ensure that the meetings are run effectively and adhere to the stakeholder-orientation of the strategy-development process.

(Revised SOW) 1-7

Contract: EP-W-08-018, Work Assignment: 1-7

All meetings shall be announced in advance on the website and open to the public.

Deliverables:

1. A draft written meeting summary for each Advisory Group meeting will be made electronically available to ADEC and AAG members for review and comment within 5 working days after each meeting. ADEC/AAG revisions will be incorporated into the draft and a final meeting summary will be posted on web site within 10 working days after meeting. Summary documents should reflect any recommendations/conclusions reached during the meeting.
2. Final Report: Contractor shall provide support to the AAG and MAG activities leading to a final report of options and recommendations made available to the sub-cabinet by July 1, 2009. The report shall be made available to ADEC and EPA COR.

Task 3: Support for Draft Strategy

The report describing the refined options developed from the TWG process and further synthesized by the Advisory groups, will need to be transitioned into an overall strategy for the State of Alaska. Contractor support will be needed to help assist in this transition. This assistance may take the form of analytical services or drafting narrative sections of the final strategy document. The exact contractor support needed to help draft the final strategy document will be determined by ADEC staff and will include one or two in-person meetings.



United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-7

Work Assignment

☐ Original ☒ Amendment Number: 1

Contract Number
EP-W-08-018

Contract Period
Base

Option Period Number 1

Title of Work Assignment
Support for Development of Alaska Climate
Change Strategy

Contractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 12/31/09

Comments:

The purpose of this amendment is to approve the contractor's workplan and cost estimate (dated March 31, 2009). LOE is revised from 635 to 733. There is an authorized ceiling amount of \$84,000.00; the contractor shall not exceed this amount without prior approval from the Contracting Officer. (see attached notice)

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Previously Approved	Cost/Fee \$0.00	LOE 635
This Action	\$107,815.00	98
Total	\$107,815.00	733

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 03/31/09 Cost/Fee: \$107,815.00 LOE: 733
Cumulative Approved: 05/07/09 Cost/Fee: \$107,815.00 LOE: 733

Work Assignment Manager Name

MICHAEL J. LOUGHRAN

(Signature)

(Date)

Branch/Mail Code 8101R

Phone Number 202-564-6686

Fax Number

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-0966

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Support for Development of Alaska Climate Change Strategy

Contract: EP-W-08-018, Work Assignment: 1-7, Amendment: 0001

Summary Information

Title: Support for Development of Alaska Climate Change Strategy
Period of Performance: From: 03/11/09 To: 12/31/09
Award Date: 03/11/09
Total Funding:

Attachments

The following item(s) have been added:

Attachment Name

Notice:

WA Totals

The following item(s) have been added:

Category	POP	Amount
Estimated Cost	Option 1	\$ (b)(4)
Fixed Fee	Option 1	

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 635 to 733.

Notice:

Contract: EP-W-08-018, Work Assignment: 1-7, Amendment: 0001

WORK ASSIGNMENT 1-7

NOTICE: The contractor must include the State of Alaska (ADEC) when providing deliverables identified under Task 1 of both the support to the Technical Workgroup Process and the Economic Activities Technical Work Group workplan.

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-7

Work Assignment☐ Original ☒ Amendment Number: 2Contract Number
EP-W-08-018Contract Period
Base Option Period NumberTitle of Work Assignment
Support for Development of Alaska Climate
Change StrategyContractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan ApprovalPeriods of Performance
From: 03/11/09 To: 12/31/09

Comments:

The purpose of this amendment revise the estimated cost and fixed fee (see page 2), and to increase the authorized ceiling amount from \$84,000.00 to \$107,000.00; the contractor shall not exceed this amount without prior approval from the Contracting Officer.

☐ Superfund**Accounting and Appropriations Data**☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$107,815.00	733
This Action	\$0.00	0
Total	\$107,815.00	733

Work Plan / Cost Estimate Approvals

Contractor WP Dated:	Cost/Fee:	LOE:
Cumulative Approved:	Cost/Fee: \$107,815.00	LOE: 733

Work Assignment Manager Name

MICHAEL J. LOUGHRAN

(Signature)

(Date)

Branch/Mail Code 8101R

Phone Number 202-564-6686

Fax Number

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number 202-564-0966

Fax Number 202-565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Support for Development of Alaska Climate Change Strategy

Contract: EP-W-08-018, Work Assignment: 1-7, Amendment: 0002

Summary Information

Title: Support for Development of Alaska Climate Change Strategy
Period of Performance: From: 03/11/09 To: 12/31/09
Award Date: 03/11/09
Total Funding:

WA Totals

The following item(s) have been modified:

Category	POP	From	By	To
Estimated Cost	Option 1	\$(b)(4)	(b)(4)	\$(b)(4)
Fixed Fee	Option 1		(\$	

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-7

Work Assignment

☐ Original ☒ Amendment Number: 3Contract Number
EP-W-08-018Contract Period
Base

Option Period Number 1

Title of Work Assignment
Support for Development of Alaska Climate
Change StrategyContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 03/11/09

To: 12/31/09

Comments:

This amendment increases the LOE from 733 to 773 (per contractor letter dated June 4, 2009).

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:	Cost/Fee	LOE
Previously Approved	\$107,815.00	733
This Action	\$0.00	40
Total	\$107,815.00	773

Work Plan / Cost Estimate Approvals

Contractor WP Dated :	Cost/Fee:	LOE:
Cumulative Approved:	Cost/Fee: \$107,815.00	LOE: 773

Work Assignment Manager Name

MICHAEL J. LOUGHRAN

Branch/Mail Code 8101R

Phone Number 202-564-6686

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

Branch/Mail Code 3803R

Phone Number 202-564-2185

Fax Number 202-565-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

Branch/Mail Code 3803R

Phone Number 202-564-1041

Fax Number 202-565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

Support for Development of Alaska Climate Change Strategy

Contract: EP-W-08-018, Work Assignment: 1-7, Amendment: 0003

Summary Information

Title: Support for Development of Alaska Climate Change Strategy
Period of Performance: From: 03/11/09
To: 12/31/09
Award Date: 03/11/09
Total Funding:

Procurement Management Roles

The following item(s) have been modified:

ADMINISTRATIVE CONTRACTING OFFICER:

U.S. E.P.A.
Attn: DEBRA A. MILLER
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 3803R
Phone Number: 202-564-1041
Fax Number: 202-565-2554
E-Mail Address: miller.debra@epa.gov

WA Classification

The following changes have occurred:

The Labor Hour Ceiling has changed from 733 to 773.

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-8

Work Assignment☒ Original ☐ Amendment Number:Contract Number
EP-W-08-018Contract Period
Base

Option Period Number I

Title of Work Assignment
General Equilibrium Modeling of Abatement
Policies under a Cap-and-Trade System for
ChinaContractor
CF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☒ Work Assignment Initiation ☐ Work Assignment Close-Out
☐ Work Assignment Amendment ☐ Incremental Funding
☐ Work Plan Approval

Periods of Performance

From: 08/03/09

To: 03/10/10

Comments:

The contractor shall prepare and deliver a workplan and cost estimate in accordance with the attached Work Assignment (Statement of Work) and the contract.

☐ Superfund**Accounting and Appropriations Data**☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee

LOE

Previously Approved

This Action

Total

\$0.00

394

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee: \$0.00

LOE: 394

Work Assignment Manager Name

KEITH A. SARGENT

Branch/Mail Code 1809-T

Phone Number (202) 566-2276

Fax Number

(Signature)

(Date)

Project Officer Name

SHERMAN E. FARVES

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Phone Number (202) 564-2185

Fax Number (202) 564-2554

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

(Signature)

(Date)

Contracting Official Name

DEBRA A. MILLER

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Phone Number (202) 564-1041

Fax Number (202) 565-2554

(Signature)

(Date)

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

General Equilibrium Modeling of Abatement Policies under a Cap-and-Trade System for China

Contract: EP-W-08-018, Work Assignment: 1-8

Summary Information

Title: General Equilibrium Modeling of Abatement Policies
under a Cap-and-Trade System for China

Period of Performance: From: 08/03/09
To: 03/10/10

Award Date:

Total Funding:

Procurement Management Roles

WORK ASSIGNMENT MANAGER:

U.S. E.P.A.
Attn: KEITH A. SARGENT
1200 PENNSYLVANIA AVE, NW
WASHINGTON, DC 20460

Mail Code: 1809-T
Phone Number: (202) 566-2276
Fax Number:
E-Mail Address: sargent.keith@epa.gov

Deliverable Items

SCHEDULE FOR LOCATION:

Attachments

Attachment Name

General Equilibrium Modeling of Abatement Policies under a
Cap-and-Trade System for China

Title: General Equilibrium Modeling of Abatement Policies under a Cap-and-Trade System for China

Contract Number: EP-W-08-018

Work Assignment: 1-8

Estimated Level of Effort: 394 hours

Background

As mandated at the first session of the U.S.-China Strategic Economic Dialogue (SED) held in Beijing in December 2006, China and the United States agreed to conduct a Joint Economic Study (JES) to evaluate the environmental, economic, and human health costs of pollution. The specific objectives of the JES were to: (i) enhance the capacity to identify and design policies and programs that cost-effectively improve air quality and energy efficiency in China and the U.S.; (ii) share information about Chinese and U.S. experiences with programs to reduce emissions from the power sector and improve energy efficiency; (iii) recommend policies, regulations, institutions, and infrastructure for China to achieve the targets set in the 11th Five-Year Plan; and (iv) demonstrate that environmental protection and economic growth are fully compatible.

Over the last two decades, population growth, economic growth, and urbanization have contributed to air quality problems in many Chinese cities. Emissions from the power sector, and coal-fired power plants in particular, have taken a major toll on the environment and human health. SO₂ and NO_x emissions contribute to severe acid rain that falls on more than 30% of China's land area and over half of its large cities. They also contribute to high SO₂ and particulate levels in many Chinese cities. According to the Chinese State Environmental Protection Administration's (SEPA's) recent Green GDP study, economic losses from environmental degradation caused by air pollution reached 219.8 billion *yuan* (27.95 billion U.S. dollars) in 2004, equal to 1.3% of national GDP. The World Health Organization estimates that 400,000 premature deaths, valued at 38.6 billion *yuan* (4.9 billion U.S. dollars), result each year from unhealthy air quality in China.

In the past few years, China has enacted a number of environmental laws, regulations, and standards to address its air quality challenges. These efforts have led to improvements in local air quality in many regions of China. There are, however, many challenges that remain. Official government statistics show that between 2000 and 2005, SO₂ emissions in China increased from 19.95 metric tons to 25.5 million metric tons, an increase of more than 28 percent.

The Chinese government and the Chinese power sector have expanded a program to install flue-gas desulphurization (FGD) equipment on up to 350 GW of generating capacity. In 2005 there was 45 GW of generation capacity with FGD equipment installed (12% of coal-fired generation capacity). By the end of 2006, FGD equipment was installed on 118 GW of capacity (26% of coal-fired capacity). However, according to SEPA, approximately 40% of the completed FGD

Title: General Equilibrium Modeling of Abatement Policies under a Cap-and-Trade System for China

Work Assignment: 1-8 (cont'd)

projects in China are idle because of technical problems and lack of oversight. SEPA is developing new initiatives and policies to address these problems and improve the effectiveness and increase the installation of FGD equipment.

In the face of continuing environmental challenges, China has established mandatory targets in the 11th Five-Year Plan to reduce SO₂ emissions to 10% below 2005-levels and to reduce the energy intensity of the Chinese economy by 20% below 2005-levels. The JES, completed in early 2008, analyzed the economic impacts of environmental policies related to air emissions from the power sector, including the costs associated with emission controls and the benefits of emission reductions. The JES took advantage of existing models and expertise in both countries to evaluate the economic costs and the environmental and health benefits of improving energy efficiency and reducing emissions from the power sector. In this follow-on study to the JES, the same project teams will analyze the potential for a cap-and-trade system to achieve reductions in emissions in China at reduced costs.

This project is "General Equilibrium Modeling of Abatement Policies under a Cap-and-Trade System in China," continues efforts to undertake a follow-on study to the JES work conducted under Work Assignment 0-8, also titled "General Equilibrium Modeling of Abatement Policies Under a Cap-and-Trade System in China." The contractor will analyze the potential for a cap-and-trade system to achieve reductions in emissions in China at reduced costs. The economic analysis is to be done using general equilibrium models, bottom-up technology models, and macro-economic models. The analysis will be focused on the power sector as in JES I, and the contractor will further contribute to the development of a database of the China electricity sector covering current and projected plans. This new statement of work seeks to continue the second phase of the overall project, which began in September 2008 and continued up until March 2009. This work seeks to renew the project, beginning again in August 2009 and proposing to continue work through March 2010.

This work assignment falls under a number of the contract work areas and tasks. The most relevant areas are:

- III. A. (t) Perform economic analysis using economic models. The contractor shall process the ability to run and conduct analyses using the outputs of general equilibria models, bottom-up technology models, and macro-economic models. The contractor shall have national and international economic models available for use. In addition to the analysis of the economic impacts of environmental policies, the contractor shall develop, update and model parameters using econometric techniques. The contractor shall also modify modeling code to incorporate new features, perform quick turn-around modeling exercises, develop spreadsheets to enhance model functionality, and develop or periodically re-calibrate model baselines.

Title: General Equilibrium Modeling of Abatement Policies under a
Cap-and-Trade System for China

Work Assignment: 1-8 (cont'd)

- III. B. (e) Develop methodologies to quantify greenhouse gas and criteria pollutant (SO₂, NO_x, PM) emissions for use in the U.S. and internationally.
- III. C. (b) Economic and cost analyses of technical options for reducing emissions and enhancing carbon removal from sinks.
- III. D. (d) Conduct economic analyses of the benefits of the use of market mechanisms including cap and trade programs and project-level trading activities.

Purpose and Scope of Work

The Harvard China CGE model will be updated with the most recent data available. The production/cost structure of the model will be revised to allow for a more flexible specification and sensitivity analysis. Time-series data will be used where appropriate. Information on the energy sector will also be incorporated into the model.

Deliverables and Timeline

Task 1: Prepare Workplan

1a) The Contractor shall provide the WAM with a Workplan within 14 calendar days of receipt of approved work assignment from CO; and

1b) revised workplan (if necessary) within 5 days of receipt of comments from the CO.

Task 2: Harvard China CGE Model Development

The Harvard China CGE model will be updated with the most recent data available. The production/cost structure of the model will be revised to allow for a more flexible specification and sensitivity analysis. Time-series data will be used where appropriate. Information on the energy sector obtained from collaboration with the Energy Research Institute and other sources will also be incorporated into the model. Data to be developed to support enhancements to the CGE model include the following data elements:

Capacity and output data:

- Existing capacity and output (MW and MWh) in the base year:
Coal (size and costs), Oil (size and costs), Hydro, Nuclear
- New Thermal capacity in MW, and output in MWh, in each projection year
Also projected capital and fuel costs or fuel requirements (gram of coal/kWh).
- Shutdown capacity in MW and MWh, in each projected year
- New Non-thermal plans (MW and MWh and costs in each year)

Title: General Equilibrium Modeling of Abatement Policies under a
Cap-and-Trade System for China

Work Assignment: 1-8 (cont'd)

- FGD plans (how many MW and MWh more to retrofit in each year)

Environmental data:

- FGD emissions effect (how much PM, SO₂, etc, produced without and with FGD)
- Shutdown effect on PM and SO₂ emissions in each projection year

Cost data:

- Small plant costs (capital, fuel, other operating costs)
- Existing large and medium plant costs (ditto)
- Projected unit costs of new plants
- FGD costs (capital, fuel and operating)

2a) The Contractor shall provide to the WAM an interim memorandum describing the updating of the model with new data and parameters. This memorandum shall include a discussion of all major data sources used to complete the update. This memorandum shall be submitted to the WAM within four months of Workplan approval.

2b) The contractor shall revise the memorandum, based on written comments received from the WAM within two weeks of receipt of comments.

2c) The Contractor shall provide to the WAM an updated memorandum describing additional progress made to update the model with new data and parameters since preparation of the interim memorandum. This updated memorandum shall include a discussion of all major data sources used to complete the update, and provide a comprehensive description of all updates performed since commencement of the work assignment. This updated memorandum shall be submitted to the WAM within seven months of Workplan approval.

2d) The contractor shall revise the updated memorandum, based on written comments received from the WAM within two weeks of receipt of comments

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment Number

1-8

Work Assignment

☐ Original ☒ Amendment Number: 1Contract Number
EP-W-08-018Contract Period
Base

Option Period Number 1

Title of Work Assignment
General Equilibrium Modeling of Abatement
Policies under a Cap-and-Trade System for
ChinaContractor
ICF SERVICES COMPANY, L.L.C.

Specify Section and Paragraph of Contract SOW

Purpose: ☐ Work Assignment Initiation ☐ Work Assignment Close-Out
☒ Work Assignment Amendment ☐ Incremental Funding
☒ Work Plan Approval

Periods of Performance

From: 08/03/09

To: 03/10/10

Comments:

The purpose of this amendment is to approve the contractor's workplan and cost estimate (dated August 26, 2009). There is an authorized ceiling limit of \$59,318.00; and the contractor shall not exceed this amount without prior approval from the Contracting Officer.

☐ Superfund

Accounting and Appropriations Data

☒ Non-Superfund

Line	DC (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class	Amount	(Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1											
2											
3											
4											
5											

Authorized Work Assignment Ceiling

Contract Period: Previously Approved	Cost/Fee \$0.00	LOE 394
This Action	\$59,318.00	0
Total	\$59,318.00	394

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 08/26/09	Cost/Fee: \$59,318.00	LOE: 394
Cumulative Approved: 09/23/09	Cost/Fee: \$59,318.00	LOE: 394

Work Assignment Manager Name

KEITH A. SARGENT

(Signature)

(Date)

Branch/Mail Code 1809-T

Phone Number (202) 566-2276

Fax Number

Project Officer Name

SHERMAN E. FARVES

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number (202) 564-2185

Fax Number (202) 564-2554

Other Agency Official Name

Branch/Mail Code

Phone Number

Fax Number

Contracting Official Name

DEBRA A. MILLER

(Signature)

(Date)

Branch/Mail Code 3803R

Phone Number (202) 564-1041

Fax Number (202) 565-2554

Contractor Acknowledgement of Receipt and Approval of Workplan (Signature and Title)

Date

General Equilibrium Modeling of Abatement Policies under a Cap-and-Trade System for China

Contract: EP-W-08-018, Work Assignment: 1-8, Amendment: 0001

Summary Information

Title: General Equilibrium Modeling of Abatement Policies
under a Cap-and-Trade System for China

Period of Performance: From: 08/03/09
To: 03/10/10

Award Date: 08/03/09

Total Funding:

WA Totals

The following item(s) have been added:

Category	POP	Amount
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Estimated Cost	Option 1	(b)(4)
Fixed Fee	Option 1	